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The mega-mergers: How they're working

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BN shops: Cutting costs— not quality

RAILWAY AGE
October 25, 1982

FEATURES

BN shops:
Cutting costs—
not quality

Cover: Burlington Northern shop photo by Pat Stafford. *Page 15.*

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Inside

LUTHER S. MILLER

IMPORTING CARS, EXPORTING JOBS

At a time when the freight-car business is mired at Great Depression levels, the passenger railcar market is experiencing an almost unprecedented boom. So far this year U.S. rail transit authorities have placed orders for cars valued well in excess of $1 billion—about five times as much business as the freight railroads have placed with freight-car builders. In October alone new transit-car orders worth nearly $400 million were announced (p. 8).

This counter-cyclical buying should be great news for the U.S. railway supply industry, but it isn't. The fact is, much of this billion-dollar bonanza has gone to foreign builders. They are competent builders who for the most part have earned the business fair and square; they will supply an excellent product. Still, the bulk of the jobs will be created abroad; the bulk of the profits will go offshore.

What has caused this flight of business overseas? Mainly the fact that foreign governments for many years have encouraged the development of transit technology and are now encouraging its export, often with financial assistance; the U.S. hasn't.

It's too late to recover the lost business; but it isn't too late for Washington to begin to move to help ensure that U.S. industry in future gets a bigger share of U.S. business—and maybe some export business to boot. If the Reagan people don't know how to go about it, perhaps they could send a delegation to Paris or Tokyo to make enquiries.

RETURN ON INVESTMENT: THE TOP 20

How close are the railroads to achieving the 16.5% return on investment that the ICC has determined to be fair and reasonable? Not very, according to statistics released early in October by the Commission. For the 12-month period ended June 30, 1982, the industry as a whole—33 Class I railroads—reported net railway operating income of $996 million, which produced a rate of return of 1.51%. Individual railroad performance varied widely—from the Clinchfield's 17.12% to the zero return reported by several carriers. These were the top 20 performers:

TWELVE MONTHS ENDED JUNE 30, 1982

Railroad	Net Railway Operating Income (000 omitted)	Return on Investment (Percent)
1. Clinchfield	$24,350	17.12
2. Norfolk & Western	294,587	12.91
3. Missouri-Kansas-Texas	22,703	9.20
4. Chesapeake & Ohio	104,594	8.92
5. Kansas City Southern	30,044	7.74
6. Missouri Pacific	173,897	7.41
7. Rio Grande	27,500	7.24
8. Southern	191,506	7.11
9. Western Maryland	9,987	6.23
10. Louisville & Nashville	83,405	5.78
11. Soo Line	23,840	5.74
12. Union Pacific	161,500	5.56
13. Bessemer & Lake Erie	7,818	4.99
14. Santa Fe	117,366	4.14
15. St.Louis Southwestern	24,761	3.81
16. Burlington Northern	142,269	3.60
17. Elgin, Joliet & Eastern	4,077	2.77
18. Grand Trunk Western	8,176	2.62
19. Florida East Coast	4,696	2.57
20. Duluth, Missabe & Iron Range	1,817	1.71

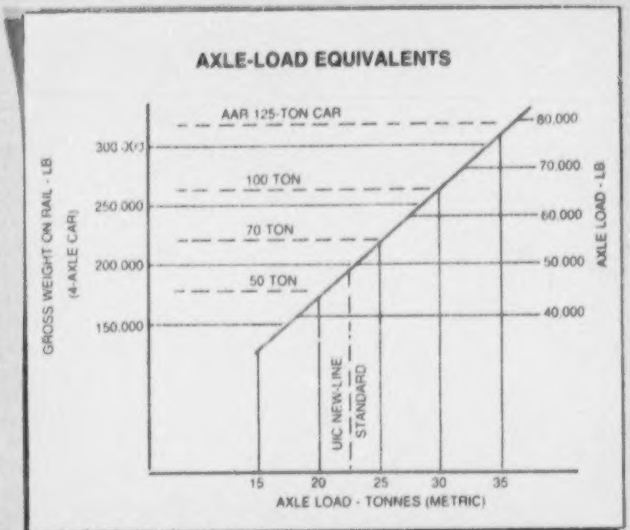
BN's heavy-haul coal operations were among those examined at the second heavy-haul conference. Above, BN coal trains near Glendo, Wyo.

Meeting the heavy-haul challenge

From all over the world, railroaders with heavy-haul problems (and a few with answers) gathered at Colorado Springs recently. They compared notes—800 pages of them—and measured the progress that has been made since they first got together four years ago.

By JOHN ARMSTRONG,
Associate Editor

When some parts of the system that is a railroad are working at or beyond their comfortable limits, "experience" can grow at a rapid—if not frightening—rate. When much of that experience is being acquired in some of the least inhabited or most forbidding climes on earth, direct interchange among the pioneers can be crucial in reaching practical solutions before problems reach overwhelming proportions. Such was the situation when the first conference on heavy-haul railroading was convened four years ago in Perth under the auspices of Australian engineering organizations. Not only did the meeting put railroads faced with accelerating equipment and roadway deterioration problems in touch with each other but the 600-page proceedings have become somewhat of a bible on the subject.



Key phrase at the second heavy-haul conference was *axle load*, whether expressed in metric tonnes or the AAR car-capacity terms more familiar to American railroaders.

A second convocation on the subject, cosponsored by AAR, FRA, RPI, AREA and ASME, was assembled at Colorado Springs Sept. 25-29 under the leadership of America's dean of rail research, Sergei G. Guins; lead time for such an international affair is eighteen months or more and "Meeting the Challenge of Increasing Tonnage" was its optimistic but logically-chosen theme. By meeting time last month it had become apparent that the syndrome that makes it unlikely for the sports hero emblazoned on the magazine cover to stay in the line-up by the time he hits the newsstands (let alone avoiding an 0 for 6 slump or worse) works worldwide in the mineral industries as well. The paramount challenge switched from *hauling* iron ore—and to varying extents the other bulk commodities of commerce—to *selling* the stuff, and for some anxious months the possibility of assembling enough participants in Colorado Springs for a meaningful exchange of experience in the face of straitened travel budgets was far from a sure thing.

In the end, however, close to 300 participants assembled to hear, discuss and take home with them the 72 technical papers forming the 800-page proceedings of this second conference on the most efficient ways to move vast tonnages overland under any combination of trying environments, natural or man-made. Fourteen North American railroads were represented; worldwide, substantial groups of railroaders, researchers and suppliers participated, with Australia, Japan, China, South Africa, France, Germany, Scandinavia and Great Britain particularly well represented.

- **How heavy?** A heavy-haul railroad may be defined as one where the requirement to transport major tonnages of relatively low specific value at a marketable cost (with or without other traffic on the same route) leads to the use of high axle loads over trackage whose capacity is closely tailored to the flow. Competitive pressures favoring the 100-ton car have put much of the North American network into this category, as cogently emphasized by Conrail's L. Stanley Crane. By this definition, heavy-haul lines come in shapes and sizes ranging from long and skinny to short and fat: characteristics of the specific routes represented by papers at the second conference, reduced to common North American engineering units (short tons, miles), are presented in Table I.

Many other heavy haul railroads, including such exemplary lines as Brazil's Vitoria-Minas Railway which operates 14,400 trailing-ton trains with eight-axle locomotives over meter-gauge track, were repre-

Table I Summary of Heavy-Haul Railroads

Railroad route	Principal route length miles	Heavy-haul start date	Principal traffic	Gauge	Trackage	Pass. track spacing (typical) miles	Loaded trains per day	Pro-pulsion	Train consist		
									Locos.	Cars	Net tons/car
Africa											
South African Rys. Ermelo-Richards Bay Trunk	262	1976	Coal & mixed	3'6"	Single/ 20% double	7	16	Electric 25kv 50Hz	4	88	64
	c.280	1986	"	3'6"	Single/ 20% double	7	9	Electric 25kv 50Hz	4	200	94
Line through rugged territory (36% curved) to be doubled in coal export capacity while retaining mixed traffic capacity. Radial trucks.											
South African Rys. Sishen-Saldanha Line	535	19[illegible]6	Iron ore	3'6"	Single	53	3	Electric 25kv 50Hz (since 1979)	3	210	94
New direct ore export route. All cars equipped with radial self-steering (cross-braced) trucks.											
Asia											
Chinese People's Republic Rys. Typical high-density routes	— —	— —	Minerals, fgt. & psgr.	4'8½"	Double	—	50	Electric/ diesel/steam	—	—	50
Rapidly expanding network with dense freight & passenger traffic.											
Australia											
Queensland Railways Goonyella Line	125	1970	Coal	3'6"	Single	15	6	Diesel	3 + 3	148	63
Remote control mid-train units used to meet capacity requirements. Aluminum-body gondolas for corrosion resistance.											
Hamersley Iron Paraburdoo-Tom Price-Dampier	237	1966	Iron ore	4'8½"	Single/ 14% double	16	7	Diesel	3	180	106
Original 118 lb. rail replaced as tonnage outgrew original capacity estimates by 300%.											
Mt. Newman Mining Mt. Newman-Port Hedland	253	1968	Iron ore	4'8½"	Single	16	10	Diesel	3	144	104
Railroad now moving to 8% higher axle loading. Steel ties being installed (50,000/yr) following 180 MGT test.											
Westrail Kwinaka-Koolynobbing Main Line	310	1966- 1982	Ore, grain Mixed traffic	4'8½"/ 3'6"	Single/ double	—	—	Diesel	Mixed traffic		
Rebuilding of 1966 standard-gauge line (dual gauge over 67 mi.) deteriorating rapidly under heavier than planned traffic. Unique dual-gauge concrete ties.											
Europe											
Swedish & Norwegian State Rys. Kiruna-Svappavarra-Narvik Line	120	1903	Iron ore	4'8½"	Single	7	15	Electric 15kv 16⅔Hz	1	52	88
Patriarch of European heavy-haul routes, crossing the Arctic Circle.											
Rhenish Lignite Mining Railways Lignite-hauling line extension	33	1983	Lignite	4'8½"	Double	—	>110	Electric 6kv 50Hz	1	14	106
Overburden-disposal system	<10	1950	Gravel overburden	4'8½"	Double	—	>200	Electric 6kv 50Hz	1	10	216
Special-purpose haulers built with 19 ft. track centers to accommodate oversize cars: overburden — 8-axle side-dump; lignite — 4-axle saddle-dump											
North America											
Burlington Northern Wyoming coal routes	800- 1500	1970's	Coal	4'8½"	Single → 30-50% double	10	10 → 30	Diesel	4	110	100- -105
Expanding capacity of previous low-density routes by track-upgrading, etc. siding extension/double tracking, manned helper locomotives as required.											
Canadian National Edmonton-Vancouver main line	750	1970's	Coal, grain, bulk & premium fgt.	4'8½"	Single → 50% double	10	10 → 18	Diesel	3	100	100
Track upgrading completed—siding extensions, extensive double tracking in progress.											
Canadian Pacific Calgary-Vancouver main line	650	1970's	Coal, grain, bulk & premium fgt.	4'8½"	Single → 30% double	10	15 26	Diesel	4 + 2 + 6 3 + 2	108 111	100- 105
Three westbound bottlenecks reduced to 1.0% by 1981. Final grade reduction requires 9 mi. tunnel (1986). Remote control mid-train locomotives.											
FAST Transportation Test Ctr., Pueblo	4.8	1976	Test train	4'8½"	Single	—	125	Diesel	4	65	100
Track structure/rolling stock test track—included for comparison with real-world service.											

N.A. Not available. All tonnage figures in short tons (2000 lb.)

sented in the presentations of the first Heavy Haul conference. Taken together, the two present a comprehensive worldwide picture of combinations of loads, geometry, materials, maintenance and operating practice which are moving the goods with efficiency and dispatch.

At the time of the first conference the increasing role of fatigue in supplanting wear as the terminator of rail life was becoming apparent. With a plague of other problems besieging those routes called upon to handle unprecedented (and often unplanned for) GTM levels, panic was in the atmosphere. How far and how irretrievably past center had

Trailing gross tons	Ruling grade Against loads %	 Against empties %	Max. Speed Loaded train mph	 Empty train mph	Gross Trailing tons/yr (per track) millions	Gross Accum. tonnage, (per track)	Axle load (car) lb	Rail weight lb/yd	Ties type	Spacing inches	Curvature (typ. maximum) degrees
7,780	1.5	1.5	37	45	53	200	44,100	114	Concrete	27.5	3.5
22,900	0.6	1.5	37	45	105	—	57,300	120	Concrete	25.6	3.5
24,100	0.4	1.0	43	43	22	120	57,300	120	Concrete	25.6	2.0
2,500 avg.	0.6 typ.	0.6 typ.	—	—	40	—	50,000	121	Concrete	19.5, 21.5	3.1
11,600	1.0	2.0	37	37	32	220	39,100	107-> 120	Wood-> concrete	24 27	5.8
23,700	0.3, 0.4	2.0	43	46	70	690	65,800	136	Wood-> concrete	25	4.5
18,900	0.55	1.5	40	46	55	650	65,800-> 71,650	132	Wood-> steel	26	3.0
	N.A.	N.A.	43	56	12	—	53,000	94-> 120	Wood-> concrete	24 26	4.5
5,700	1.0	1.0	31	37	31	>500	55,000	100/ 108	Wood	19.5	N.A.
1,930	0.6	0.6	37	37	>40 by 1995	—	69,000	120	Wood	N.A.	2.6
2,650	1.4	1.4	37	37	Shifting routes	—	66,200	120	Wood	N.A.	—
14,500	0.5	0.5 >	45	50	50 -> 100	—	65,800	136	Wood	19.5	2-8
13,200	0.7	0.7	50	50	50 -> 85	—	65,800	136	Wood-> concrete	195 24	6
14,000 14,700	2.2-> 1.0	2.2	50	50	41-> 72	—	65,800	136	Wood	19.5	2-10 2-6
8,500	20	2.0	45	—	100-150	150-600	65,800	136	Wood, concrete	19.5 24	5.0

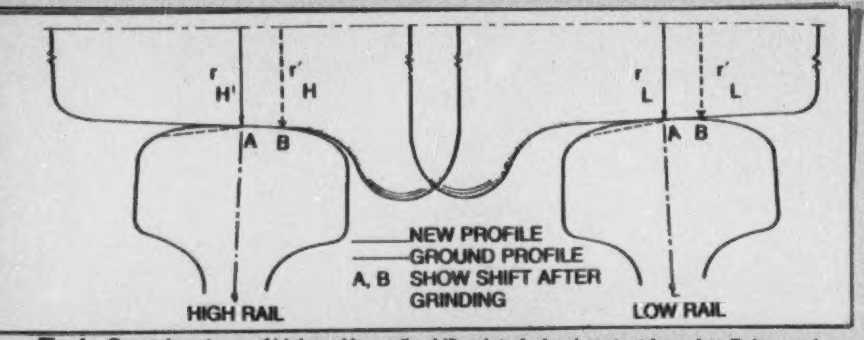


Fig. 1 Ground contours of high and low rails shift point of wheel contact from A to B, increasing differential rolling radius to an extent making wheelset self-steering on curves up to somewhat over two degrees of curvature. Gauge corner of high rail is also relieved slightly to avoid contact with flange throat.

the axle load pendulum already swung with the 100-ton car?

With its program to upgrade main lines to 22.5 tonne axle loads in Western Europe moving along, the UIC was still comfortably below the 70-ton standard looked upon by American trackmen as "the good old days", but heavy haulers working their remote lines flat out to keep ahead of the ore ships in the harbor were having recurrent nightmares in which entire mainlines disintegrated into short chunks of rail at an unpredictable rate.

Four years later at Colorado Springs the mood was relatively upbeat. Mysteries remain in some areas, but results of the continued application of higher powered measurement and analysis technology, in both research and day by day operation and maintenance, have begun to show up. Longer and more predictable rail life, fewer derailments, and better-established judgement calls in deciding how to design track and wheels to live together are the payoffs.

• **A capsule of progress.** Heavy, homogeneous traffic helps clarify the picture as wheels and rail interact, so it may well be easier to apply research-sharpened answers effectively on a single-purpose railroad than in the councils of the AAR. As examples of what can be done in putting knowledge to work, though, the two Pilbara-region ore hauling lines in Australia are certainly worth a look. When it comes to selling iron ore, Hamersley Iron and Mt. Newman Mining are competitors; when it comes to supporting research on ways of hauling ore more cheaply, they have been partners in sponsoring work at the Melbourne Research Laboratories of parent steelmaker Broken Hill Proprietary. Considerable traffic in senior rail researchers between BHP and organizations in Canada and the United States has also stirred the pot, making results from Down Under intelligible and usable Up Over as well.

Originally expected to handle a few million tons of ore a year, Hamersley Iron's 118-pound rail broke down quickly when traffic soared and it had to be replaced in toto with 136-pound steel after only about 200 MGT—failures were so frequent that train delays for maintenance prevented meeting tonnage requirements. Understandably concerned about the life of its second suit of rail, Hamersley has developed to a fine point the preservation of a favorable rail/wheel interface throughout the wear cycle. Grinding capacity needed to keep up with corrugation problems has been put to use to create and maintain a set of asymmetrical railhead profiles (Fig. 1) which—with the relatively controlled wheel tread contours on the line—have demonstrated flange-free tracking through curves up to two degrees; this includes almost all of the route. The resulting absence of side wear on the railhead eliminates the need to transpose rail and increase headwear allowable before replacement to 35%.

Overall, contouring which uses no more rail grinding time than formerly needed for corrugation control has saved 30 miles of programmed curve rail replacement in its first two years—at the moment there is "a slightly embarrassing stockpile" of premium rail on the property.

Control of the interface by modifying railhead contour was indeed one of the concepts most in evidence at the Conference. Britrail is not usually thought of as a major heavy hauler—although the 25 tonne (55,100-pound) axle load it allows on "merry go round" mineral trains is well ahead of Continental practice—but a railhead *planing* process developed there may well be one of the bigger things benefitting high axle load railroading. Curveworn rail on British passenger routes cannot be transposed to complete its service life because its head shape will cause hunting in the HST 125 coaches. A rail planing cutter dragged over the rail while in place at about 2 mph takes a succession of seven cuts which restore its contour, for further life in that location or in relay. It works on rail of up to 350 BHN hardness and is expected to result in as much as 15% overall reduction in new rail requirements systemwide.

• **Pinpointing fatigue probabilities.** On the Mt. Newman iron-ore line it's accepted that the high axle loads that allow moving the tonnage with minimum investment in trackage, cars and power will result in making fatigue the life-terminating factor for much of its rail. How do you predict when a section of rail will reach the point where it is generating defects at a rate requiring renewal? The whole railroad can't be re-railed at once, and responding in fire-drill fashion after the fact is not way to use track time and maintenance crews effectively.

Plotting the incidence of detected defects in alternate curved and tangent sections over the whole line (Fig. 2) showed extreme variability. Some of the rail is obviously overdue; other sections have years ahead of them, and a normal re-railing segment would probably include some of both. A best-fit statistical analysis was used to seek out those factors that do in fact significantly affect the rate of defect occurrence. Curvature, transposition history and steel cleanliness (top of ingot, semi-killed, fully-killed ranking from worst to best in this respect) were found to be significant. To combine these factors with specific defect history (in 450-yard segments considered to represent economically acceptable units for re-railing) and to interweave the scheduling and cost aspects of the rail grinding program with the result (you don't want to grind a rail that's going to be replaced next week anyway) would seem to require an excruciatingly complex programming development on the part of the MRL-Mt. Newman team. However, the attractive bottom line is a replacement and grinding schedule for the whole line which it is calculated has already saved over $1 million dollars in postponed re-railing without increasing fatigue failure.

On the basis of all this Mt. Newman be-

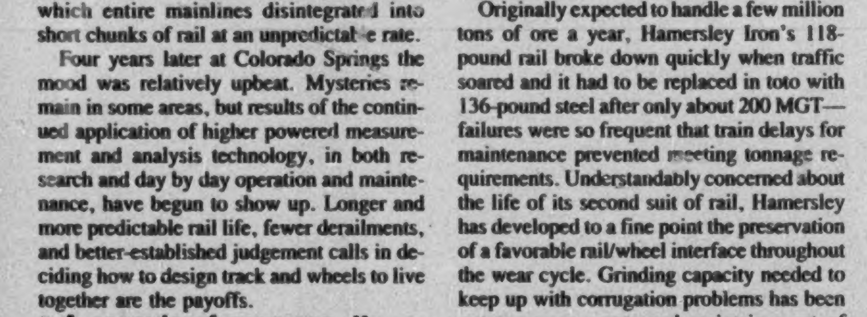


Fig. 2 Density of detected rail defects in alternate tangent and curved segments of Mt. Newman Mining Co. railroad varies from zero to over 45 per mile, indicating that only a highly selective rail renewal program will eliminate steel reaching the end of its economic life. Chart covers 253 miles.

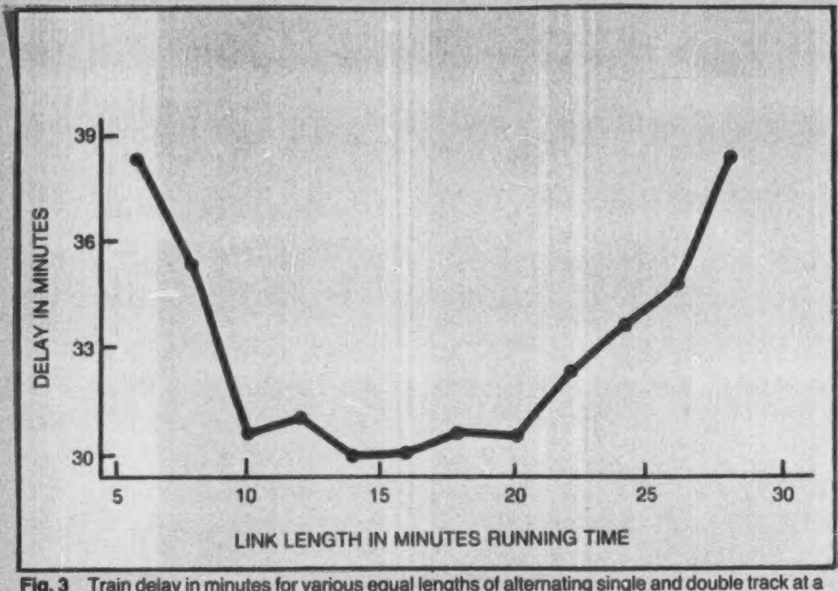


Fig. 3 Train delay in minutes for various equal lengths of alternating single and double track at a traffic density of 60 trains per day, based on computer simulation by BN including such factors as speeds through turnouts, train lengths and horsepower horsepower/ton for representative coal traffic consists.

lieves that lower ore transportation costs will result from *increasing* the axle load. Raised to 32.5 tonnes (71,650 pounds) now, it will go up another 7% if results stay in line with expectations. Another result of the rail analysis is a decision to use head-hardened rail for all future replacements, on tangent as well as curved track; reductions in corrugation, fatigue and hunting-inducing wear are calculated to repay the premium.

When it comes to ties, Mt. Newman and Hamersley read the print-outs differently. Mt. Newman believes the Trakloc fastening and rubber pad combination on which it has accumulated 180 MGT of test data overcomes historical steel-tie problems; it will be putting in 50,000 a year. Hamersley is going the concrete route.

The asymmetrical railhead for a better wheel-rail match is not a new concept (the 11523 section of many years ago being of that type), but practical rail wear data based on its extensive use is an interesting addition to the body of information making up the state of the art, whether or not a railroad running mixed traffic and handling foreign cars can use it directly.

- **Putting sidings in the right place.** Coal tonnage growth in some areas has remained in synch with the conference theme; another major topic of discussion was the evolution of erstwhile moderate-traffic main or secondary lines into true heavy haulers as a flood of unit trains is interwoven with existing traffic. Burlington Northern and the two Canadian transcontinentals have of course been studying the matter of adding capacity without breaking the piggy bank as an item of more than academic interest. BN, in fact, has been so busy devising and running train performance simulations over its thousands of miles of line impacted by coal traffic that it has had to make some quick planning judgements on the basis of evolving rules of thumb that have demonstrated they can do a pretty good job in simulating results of more detailed simulations.

Consider the implications of Fig. 3, lifted from BN's discussion of heavy-traffic trackage-expansion strategy. For alternating stretches of single and double track, so long as all the links are close to the same length, train delays over the range of link lengths from 10 to 20 minutes running time (about 8 to 16 miles at 50 mph) don't vary significantly. This can represent a major element of flexibility for the planner who must adapt theory to conditions out in the field. Simulations with track segments out of service for maintenance point out the value of providing midpoint double crossovers in every 10 mile section of double track which is added to emerging heavy-traffic lines, and that's what you'll find going into place, in Nebraska or Wyoming or wherever else BN's program is reaching that stage.

Canadian National (whose problem getting through the mountains to Vancouver is primarily continual curvature) and Canadian Pacific (whose shorter line bottlenecks at points where divides are crossed only with tonnage-sapping grades) are working toward the same general single-double track configurations. CN is naturally farther along in testing the effectiveness of radial trucks in keeping rail maintenance-free longer on its single segments; CP weighs remote-control locomotive/train/ventilation combinations that will allow full-tonnage operation through the nine mile tunnel which is needed to make it a 1.0% route all the way, seeking a solution short of accepting the engine-change delays of a short electrification. On a ton-mile total basis, any of these long routes will take a place near the head of the class of heavy haulers.

- **What we still don't know.** The con-

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ference was considerate enough to amplify understanding of the importance of some problems without providing solutions which would eliminate the need for further research. Some examples:

—None of the theories seeking to explain what causes rail corrugations to start and spread fit all the facts; weld irregularities in the FAST corrugation experiments did not trigger their formation as had been expected, but something else sure did, and the effects of fast-spreading corrugations on track maintenance costs were confirmed.

—Flat wheels, particularly on passenger cars at Corridor speeds, have a devastating effect on concrete ties. Softer pads help mitigate the tie-bending loads, but reintroduce questions of life and stability.

—Attempts to quantify the short and long-term reactions of ballast and subgrade under conditions of confinement that bear any relationship to the actual situation in track have a long, long way to go.

—Rail metallurgy and welding processes that will yield a railhead weld and heat-affected zone combination with hardnesses close enough to that of the rail to eliminate batter remain elusive; you can choose whether you get a "single dipper" or a "double dipper," but so far you must accept one or the other.

—British work indicates that the "natural" (gravity-free) vertical attitude of the rail itself is surprisingly influential in determining the pattern of degradation of track surface under traffic. Roller-straightened rail's end deviations and residual stresses therefore assume increased importance. Possible improvement: a French (Sacilor) experimental process designed to straighten rail by axial stretching.

In view of the evident interest in and benefits already realized from the ad-hoc, informal interchange of knowledge at the two heavy-haul conferences, sponsors voted to undertake the establishment of a permanent secretariat, supported by all interested railroads of the world, to serve as a clearing house for information and advancements in the industry relating to productivity, capacity, improved signal systems, high density traffic, and heavy loads.

Formation of an advisory committee [composed of single members representing railroads in the following groupings: Africa; Asia; Australia (private); Australia (public); Western Europe; North America; South America; at large] is contemplated to assist in development of organizational policy and to assure that a conference furthering its aims be held within five years. Pending establishment of the secretariat, the office of Dr. W.J. Harris, Jr. (AAR vice president of research and tests) will serve as a focal point. ■

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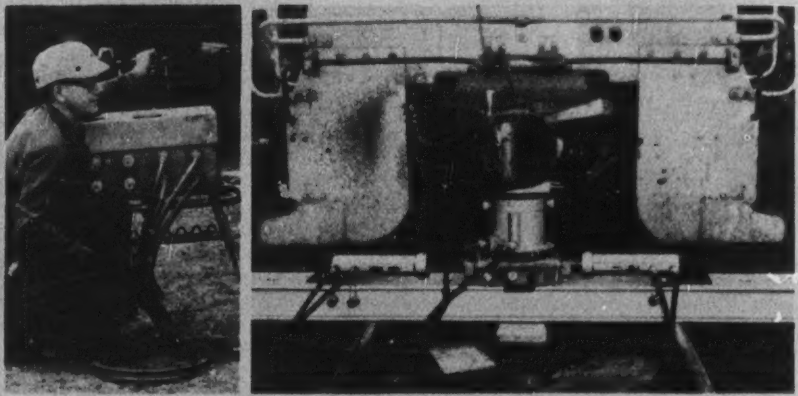

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Market

CARLOADINGS

Loadings of revenue freight in the week ended Oct. 2 totaled 373,148 cars, according to the Association of American Railroads. This was a decrease of 78,368 cars, or 17.4%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Oct. 2 are estimated at 15.7 billion, a decrease of 19.5% below the corresponding week of 1981.

REVENUE FREIGHT CARLOADINGS

Commodity	**Oct. 2 week**	**Sept. 25 week**
Grain	23,872	15,051
Other farm products	2,805	2,233
Metallic ores	11,482	11,665
Coal	119,532	83,184
Crushed stone, gravel & sand	9,945	6,998
Nonmetallic minerals	9,946	7,803
Grain mill products	12,368	10,091
Food & kindred products	14,162	10,538
Primary forest products	14,962	10,899
Lumber & wood products (except furniture)	6,926	4,727
Pulp, paper & allied products	16,194	13,651
Chemicals & allied products	22,587	18,088
Petroleum products	4,855	3,411
Stone, clay & glass products	11,475	8,918
Coke	4,437	3,957
Metals & products	8,042	6,264
Motor vehicles & equipment	12,581	11,633
Waste & scrap materials	8,008	5,782
Forwarder & shipper assn. traffic	8,318	6,723
All other carloads	50,451	38,086
LCL traffic	200	183
Total Cars Loaded	**373,148**	**279,885**
Cumulative total,	1982	1981
40 weeks	**14,489,068**	**16,804,568**
Estimated revenue ton-miles (billions), 40 weeks	**617.4**	**706.1**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Sept. 25 totaled 34,448 cars (7.7% below the corresponding 1981 week) and 57,998 trailers or containers (up 14.8% from 1981). Cumulative volume for the first 39 weeks of 1982 is 1,413,096 (up 9.2% from 1981) and 2,477,505 trailers or containers (up 6.3% from 1981).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the nine-day period ended Sept. 30 totaled 5.1 million metric tons (off 21% from 1981). Cars loaded totaled 81,077 (off 19% from 1981). Cumulative loadings for 1982 were 153.9 million tons (off 11% from 1981). A metric ton equals 2,204.6 pounds.

- *New York City Transit Authority.*—Has awarded the following contracts: $5.5 million to General Railway Signal for updating the signal system and switch controls governing train movements between Crescent Street and Cypress Hills stations in Brooklyn; $5.8 million to Delma Construction Co. for construction of an automatic substation that will replace a 59-year-old manually operated station beneath Pearl Street in downtown Manhattan; and $11.7 million to Karl Koch Erecting Co. for rehabilitation of a section of elevated line in Queens (involving replacement of 80 steel support columns, adjustment of 60 columns, and repositioning of 231 track stringers; work to be completed in the winter of 1984.)

- *Republic of Senegal Railways Department.*—Awarded a contract to Cubic Communications, subsidiary of Cubic Corp., for installation of a two-way radio communications system for a rail line extending from Dakar east into Mali. Cubic Communications will provide five fixed high-frequency radio stations and two vehicle-mounted stations, and will complete the project by early next year.

- *Tunisian National Railway Co.*—Awarded a $26-million (Canadian) contract to Bombardier for the supply of 22 diesel-electric locomotives. Included are 13 2,200-hp meter gauge and nine 2,400-hp standard gauge units.

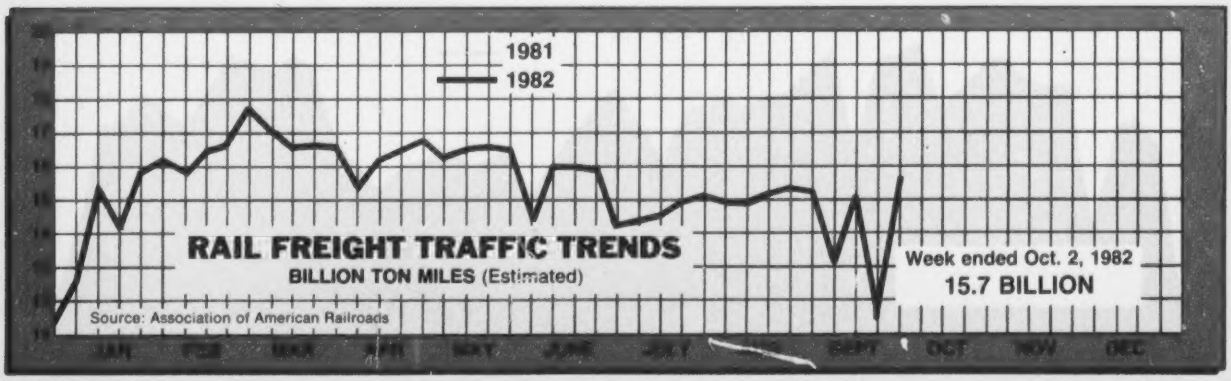
- *Washington Metropolitan Area Transit Authority.*—Awarded a $260,000 contract to UTDC (USA) of Detroit, a subsidiary of the Toronto-based Urban Transportation Development Corp., for design and development of a steerable transit-car truck for the Washington Metro. UTDC Research and Development Ltd. will perform the major part of technology. The objective, says UTDC, is to design a modification to existing trucks. Steerable trucks designed by UTDC Research and Development arenow under test at the UTDC Development Center near Kingston, Ont.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

September 1, 1982 vs. September 1, 1981

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRS	1982	291,735	170,037	139,171	298,910	88,691	56,545	23,573	1,068,662
	1981	321,373	172,782	143,362	308,977	91,924	59,631	25,981	1,124,030
Class II RRs	1982	52,488	9,399	10,704	12,980	4,725	3,463	3,368	97,127
& S&T Cos.*	1981	56,795	9,448	11,420	13,458	5,453	3,630	3,252	103,456
Railbox-	1982	24,939		3,999					28,938
Railgon	1981	24,890		3,753					28,643
RRO&C**	1982						3,549		3,549
Refgs.	1981						3,232		3,232
Private	1982	510	130,079	27,571	21,314	52,776	6,000	189,930	428,180
	1981	834	124,627	24,223	21,153	52,209	8,361	189,851	421,258
GRAND	1982	369,672	309,515	181,445	333,204	146,192	69,557	216,871	1,626,456
TOTAL	1981	403,892	306,857	182,758	343,588	149,586	74,854	219,084	1,680,619

* Class II railroads and switching and terminal companies.
** Railroad owned and controlled refrigerator car lines.



RAIL FREIGHT TRAFFIC TRENDS
BILLION TON MILES (Estimated)

Source: Association of American Railroads

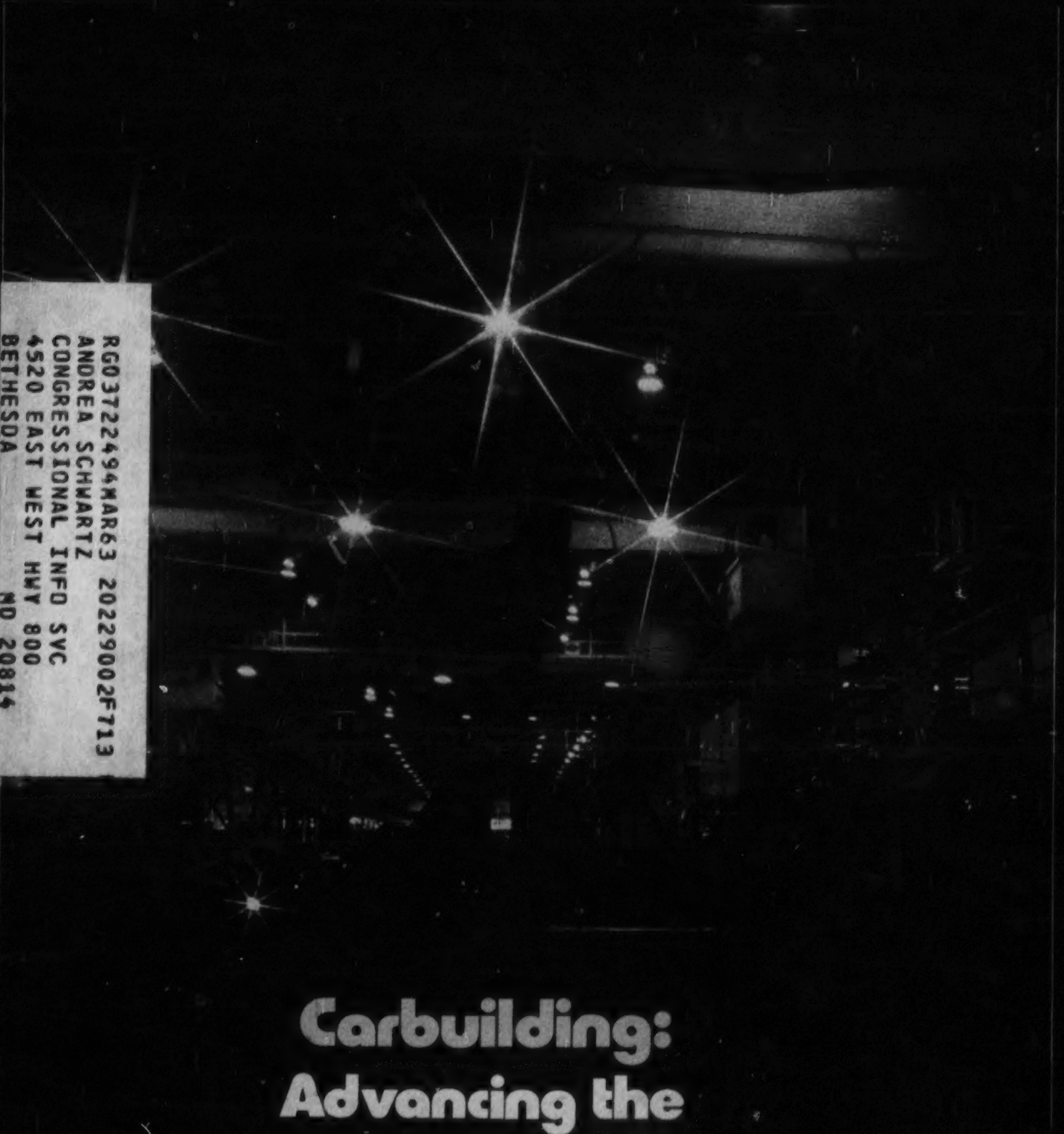
Week ended Oct. 2, 1982
15.7 BILLION

1 C8400-1 11/17/82

November 8, 1982

RAILWAY AGE

Buffalo: A wedding of light and heavy rail



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Carbuilding: Advancing the state of the art

RAILWAY AGE

November 8, 1982

FEATURES

RAILWAY AGE
Carbuilding: Advancing the state of the art

Cover: FMC's carbuilding plant at Portland, Ore. *Page 18.*

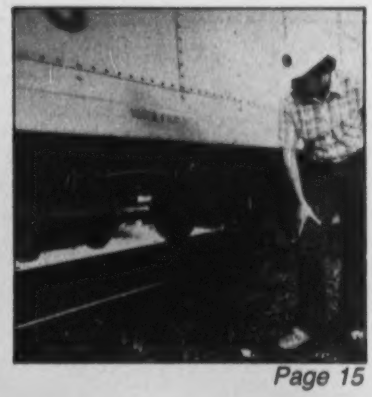
15 The new brake rules and what they will mean
Changes in FRA's power brake rules mean fewer intermediate tests (which could save railroads $100 million a year) but stricter enforcement at initial terminals.

18 FMC: Advancing the state of the carbuilding art
Confident that the freight car market will improve, FMC is busy designing, building and testing prototypes that will give customers more value for the dollar.

23 GE: In training for tomorrow
A new Learning and Communications Center at Erie, Pa., is open for business; GE employees and customers can now receive training in the technology of the future.

26 Buffalo: A wedding of heavy and light rail
Niagara Frontier Transportation Authority's 6.4-mile Light Rail Rapid Transit system (a streetcar/subway mix) is rapidly taking shape in Buffalo.

30 Houston chooses rail transit
It was a choice between a busway and a railway—and the railway won. Now Houston Metro is moving forward with the planning stages of an 18.2-mile rail line.



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13 **Simplified AFC for New York?**
21 **From Japan, a dual-purpose hopper**
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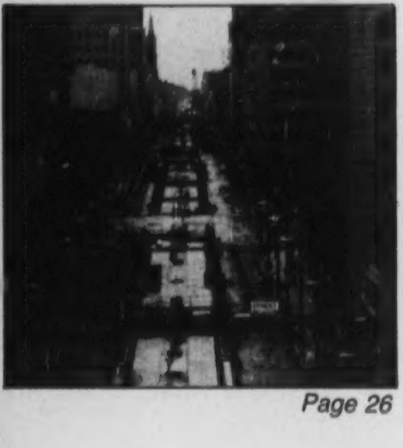

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Market

CARLOADINGS

Loadings of revenue freight in the week ended Oct. 16 totaled 351,597 cars, according to the Association of American Railroads. This was a decrease of 84,055 cars, or 19.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Oct. 16 are estimated at 14.8 billion, a decrease of 20.0% below the corresponding week of 1981.

REVENUE FREIGHT CARLOADINGS

Commodity	Oct. 16 week	Oct. 9 week
Grain	20,226	21,196
Other farm products	4,551	3,525
Metallic ores	13,412	10,564
Coal	113,455	111,320
Crushed stone, gravel & sand	9,403	9,898
Nonmetallic minerals	9,976	10,047
Grain mill products	11,974	12,072
Food & kindred products	13,513	13,416
Primary forest products	13,509	14,552
Lumber & wood products (except furniture)	6,062	5,775
Pulp, paper & allied products	15,054	15,262
Chemicals & allied products	20,784	20,649
Petroleum products	4,538	4,522
Stone, clay & glass products	9,986	10,887
Coke	4,677	4,670
Metals & products	6,535	6,450
Motor vehicles & equipment	13,140	12,456
Waste & scrap materials	7,499	7,351
Forwarder & shipper assn. traffic	7,996	8,246
All other carloads	45,149	46,733
LCL traffic	158	186
Total Cars Loaded	**351,597**	**349,777**
Cumulative total,	1982	1981
42 weeks	**15,190,415**	**17,672,421**
Estimated revenue ton-miles (billions), 42 weeks	**646.9**	**743.3**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Oct. 9 totaled 41,957 cars (13.9% above the corresponding 1981 week) and 73,882 trailers or containers (up 12.2% from 1981). Cumulative volume for the first 41 weeks of 1982 is 1,498,333 (up 9.5% from 1981) and 2,630,694 trailers or containers (up 6.7% from 1981).

- *Bay Area Rapid Transit District.*—BART Board President Eugene Garfinkle says U.S. suppliers will supply about 65% of the dollar value of components and materials that will go into the manufacture of 150 new BART cars. The prime contractor is the French consortium, SOFERVAL (*RA*, Oct. 25, p. 8). Garfinkle noted that U.S. content of the cars will be about 14% higher than the 'Buy America' policy requires for foreign-supplied equipment that is principally funded with federal money. Garfinkle also said that the SOFERVAL bid of approximately $184 million was nearly $45 million lower than the bid submitted by the Budd Co.

- *Metro Canada.*—Has selected RMS Industrial Controls Inc. of Port Moody, B.C., to supply a communications system for the Light Rapid Transit line the Urban Transit Development Corp. is building in Kingston, Ont. The initial contract is worth in excess of $236,000 (Canadian).

- *New York Metropolitan Transportation Authority.*—Awarded a contract worth approximately $850,000 to Control Systems Ltd. of Kent, England, for the supply of 75 ticket-issuing machines to be used on MTA's Hudson and Harlem and New Haven commuter lines. The specially designed machines will be operated through a keyboard controlling two high-speed matrix printers. The microprocessor-controlled machines will automatically calculate fares for all types of tickets; they will also capture data for route/revenue analysis.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

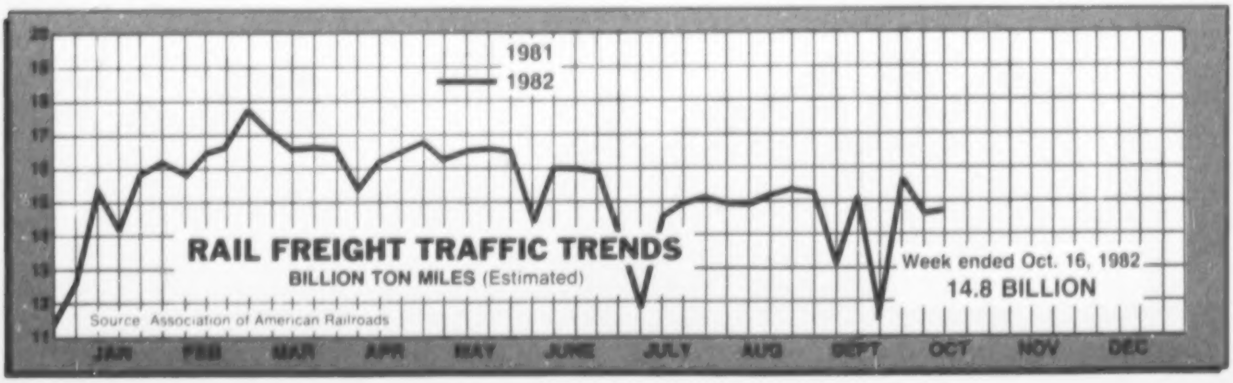
	September		August	Nine months	
	1982	1981	1982	1982	1981
Built new by carbuilders	913	3,299	992	13,886	34,431
Build new in RR shops	54	230	68	1,108	2,742
Built new—total	967	3,529	1,060	14,994	37,173
Rebuilt	139	84	98	1,039	847
TOTAL DELIVERED	**1,106**	**3,613**	**1,158**	**16,033**	**38,020**
Locomotives (new and rebuilt)	35	47	25	357	555

ORDERED

To be built new by carbuilders	583	1,743	373	5,758	13,974
To be built new in RR shops	—	—	—	—	253
To be built new—total	583	1,743	373	5,758	14,227
To be rebuilt	600	—	—	600	1,100
TOTAL ORDERED	**1,183**	**1,743**	**373**	**6,358**	**15,327**

ON ORDER AND UNDELIVERED

	October 1		September 1	Average Backlog	
	1982	1981	1982	1982	1981
To be built new by carbuilders	5,337	19,837	6,217	9,005	31,899
To be built new in RR shops	558	2,015	612	889	2,963
To be built new—total	5,895	21,852	6,829	9,894	34,862
To be rebuilt	461	253	—	364	309
TOTAL ON ORDER	**6,356**	**22,105**	**6,829**	**10,258**	**35,171**
Locomotives (new and rebuilt)	75	228	101	162	337



RAIL FREIGHT TRAFFIC TRENDS
BILLION TON MILES (Estimated)

Source: Association of American Railroads

Week ended Oct. 16, 1982
14.8 BILLION

-/ C8400-1 12/8/82

November 29, 1982

RAILWAY AGE

Cabooseless trains:
A sign of the times?

Intermodal: One bright spot in a dull, dull year

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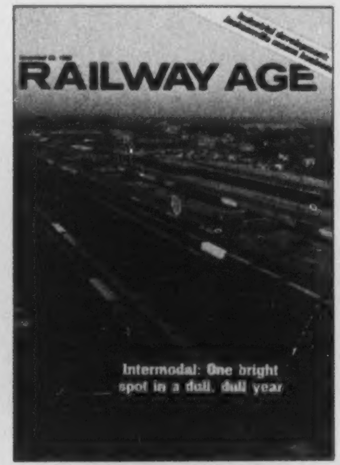
RAILWAY AGE

November 29, 1982

FEATURES



Cover: Trainload of red-liveried Itel containers, carrying Japanese made kerosene stoves, was photographed at Cicero Yard by Jim Hagle, BN's regional manager of public relations, Chicago. *Page 15.*

15 **Intermodal: A bright spot in a dull, dull year**
As piggyback traffic continues to buck national economic trends, railroads are looking at motor carriers as partners in total transportation systems.

21 **Cabooseless trains: A sign of the times?**
The gradual elimination of cabooses is just one outcome of new agreements that some believe could signal a breakthrough in management-employee relations.

24 **Apalachicola Northern: A little railroad with big ideas**
AN hopes to increase its ton-miles 20-fold by the turn of the century. For starters, AN is playing a key role in a big new rail-water-rail coal move.

28 **Industrial development: Some tips from an expert**
"The times are right," says Fantus Company's James M. Bruce, Jr., "for railroads to re-assert themselves in their industrial development function."

36 **Railview: The rate race—and what it means**
Charles N. Marshall, Conrail's general counsel-commerce, examines forces that he says "are ensuring that interrailroad price competition will increase."

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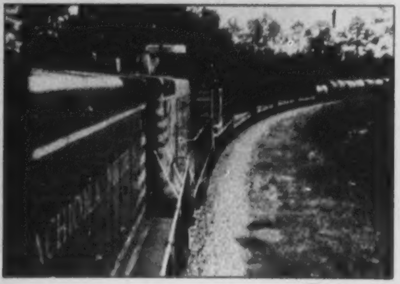

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Market

CARLOADINGS

Loadings of revenue freight in the week ended Nov. 6 totaled 359,460 cars, according to the Association of American Railroads. This was a decrease of 65,159 cars, or 15.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Nov. 6 are estimated at 15.6 billion, a decrease of 14.5% below the corresponding week of 1981.

REVENUE FREIGHT CARLOADINGS

Commodity	**Nov. 6 week**	**Oct. 30 week**	**Oct. 23 week**
Grain	28,385	28,750	24,048
Other farm products	6,683	6,578	4,738
Metallic ores	11,611	11,649	11,950
Coal	108,602	108,162	110,865
Crushed stone, gravel & sand	9,643	9,702	9,492
Nonmetallic minerals	8,906	9,289	9,440
Grain mill products	11,818	12,089	12,480
Food & kindred products	13,379	13,830	13,476
Primary forest products	14,475	14,407	14,649
Lumber & wood products (except furniture)	6,104	6,627	6,346
Pulp, paper & allied products	15,808	16,251	15,741
Chemicals & allied products	20,933	21,156	20,294
Petroleum products	4,606	4,809	4,722
Stone, clay & glass products	9,951	10,037	10,216
Coke	3,770	3,662	4,170
Metals & products	7,220	7,460	7,040
Motor vehicles & equipment	12,918	14,312	14,124
Waste & scrap materials	7,367	7,958	7,850
Forwarder & shipper assn. traffic.	7,887	8,281	8,035
All other carloads	49,219	50,737	48,304
LCL traffic	175	190	182
Total Cars Loaded	**359,460**	**365,936**	**358,162**

	1982	1981
Cumulative total, 45 weeks	**16,300,187**	**18,998,747**
Estimated revenue ton-miles (billions), 45 weeks	**693.4**	**799.6**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Oct. 30 totaled 43,021 cars (11.9% above the corresponding 1981 week) and 68,108 trailers or containers (down 0.9% from 1981). Cumulative volume for the first 44 weeks of 1982 is 1,620,576 cars (up 9.5% from 1981) and 2,837,748 trailers or containers (up 6.5% from 1981).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Oct. 14 totaled 3.7 million metric tons (down 11.8% from 1981). Cars loaded totaled 56,009 (down 13.6% from 1981). Cumulative loadings for 1982 were 161.7 million metric tons (down 10.8% from 1981).

- *BRAE Corp.*—Completed production of an order for 100 insulated piggyback trailers during the third quarter, and has a backlog of 900 additional trailers extending well into 1983, including units for delivery to three railroads.

- *Portec.*—Will supply three air-operated side dump gondolas for the El Cerrejon (Colombia) coal mining project. Scheduled for delivery in first quarter 1983, the cars will be used in the construction of port facilities and a mining railroad that are part of the $3-billion project. Morrison-Knudsen is the project's prime contractor.

- *Tri-County Metropolitan Transportation District of Oregon.*—Awarded contracts to CF&I and to British Steel for materials to be used in construction of the 15-mile Banfield light rail line. CF&I's contract, worth $1.06 million, covers the supply of spikes, plates, and rail anchors. A $2.96-million contract to British Steel covers an initial purchase of rail. A second rail contract is to be awarded later.

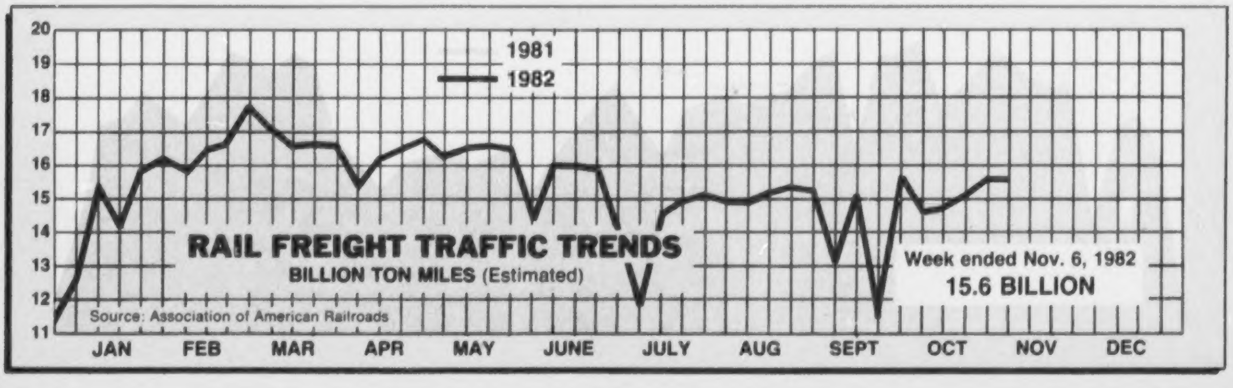
- *New Jersey Transit.*—Has awarded a $20,999,570 contract to Morrison-Knudsen for the rebuilding of 70 Arrow II m-u cars. The work, to begin in December, includes a basic overhaul of all rotating equipment (traction motors, clean air blowers, air brake systems, propulsion control systems, heating and air conditioners) and upgrading the cars to Arrow III configuration (installing three-and-two walkover seating, improving emergency door access, installing Microphor on-board treatment toilets, improving the crashworthiness of the interior, installing window glazing, retrofilling PCB transformers with ester-type fluid, and installing strobe lights). The Morrison-Knudsen bid was about $3 million less than GE's bid of $23,999,670.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

October 1, 1982 vs. October 1, 1981

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg	All Others	TOTAL
Class I RRs	1982	287,389	169,263	137,079	297,629	87,743	56,443	23,460	1,059,006
	1981	320,194	173,183	143,111	307,926	91,747	59,553	26,022	1,121,736
Class II	1982	52,730	9,402	10,676	12,998	4,741	3,407	3,373	97,327
& S&T Cos.*	1981	54,898	9,065	11,374	13,591	4,795	3,671	3,277	100,671
Railbox-	1982	24,930		3,999					28,929
Railgon	1981	24,932		3,947					28,879
RRO&C**	1982						3,866		3,866
Refgs.	1981						3,232		3,232
Private	1982	524	129,878	27,735	21,309	52,749	5,664	190,250	428,109
	1981	769	124,993	24,944	21,032	52,374	8,439	190,199	422,750
GRAND	1982	365,573	308,543	179,489	331,936	145,233	69,380	217,083	1,617,237
TOTAL	1981	400,793	307,241	183,376	342,549	148,916	74,895	219,498	1,677,268

* Class II railroads and switching and terminal companies.
** Railroad owned and controlled refrigerator car lines.



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Planning tomorrow's capital budgets

The good-track roads:

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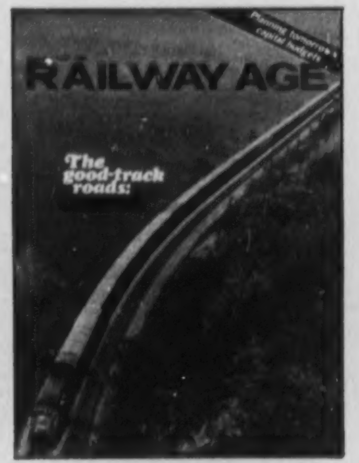
RAILWAY AGE

December 13/27, 1982

FEATURES



Cover: Conrail's rehabilitated tracks give the all-RoadRailer "Empire State Xpress" a smooth ride between Buffalo and New York City. *Page 22.*

15 Planning tomorrow's capital budgets
How has budget planning changed over the years? *Railway Age* takes a look at the decision-making process on three different railroads: Santa Fe, MoPac and BN.

19 The money markets take a new look at railroads
Now, non-traditional means of transportation financing are rapidly emerging as investor perceptions change and the emphasis shifts away from equipment.

22 Conrail: A triumph of men, money and machines
An ambitious track program, aided by careful accounting and quality control, has brought Conrail into the ranks of the profit-makers.

29 Holland: Waging war on wear
Holland is looking everywhere for new product ideas: From scrap bins (to find out what's wearing out) to foreign countries (for new techniques to develop further).

31 Contract Locomotive Repair Directory
The second annual *Railway Age* directory of contract locomotive repair facilities includes 56 companies in 86 locations in 26 states, and 10 in Canada.

41 Southern's approach to locomotive maintenance
It is a compact, efficient operation at Southern's Chattanooga Diesel Shop complex, which completes an average of 1.2 major overhauls per day.

46 ID: Jacksonville means business
With a big assist from its railroads, this northern Florida city has mounted a campaign to attract more of the investment dollars flowing into the state.

51 Baltimore Metro: Ready to roll in '83
Planning for the Baltimore Metro began in the 1960s. Now, the first eight-mile section is almost complete, and construction has already begun on an extension.

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Market

CARLOADINGS

Loadings of revenue freight in the week ended Nov. 20 totaled 353,229 cars, according to the Association of American Railroads. This was a decrease of 78,654 cars, or 18.2%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Nov. 20 are estimated at 15.6 billion, a decrease of 14.7% below the corresponding week of 1981.

REVENUE FREIGHT CARLOADINGS

Commodity	**Nov. 20 week**	**Nov. 13 week**
Grain	27,482	26,343
Other farm products	5,904	7,455
Metallic ores	11,136	12,944
Coal	106,879	103,933
Crushed stone, gravel & sand	9,264	9,543
Nonmetallic minerals	9,986	9,458
Grain mill products	11,853	11,662
Food & kindred products	13,578	12,785
Primary forest products	14,780	14,730
Lumber & wood products (except furniture)	6,493	6,051
Pulp, paper & allied products	15,448	14,695
Chemicals & allied products	20,115	19,756
Petroleum products	4,935	4,518
Stone, clay & glass products	9,453	9,495
Coke	3,303	3,460
Metals & products	6,969	6,950
Motor vehicles & equipment	12,981	12,726
Waste & scrap materials	7,554	7,405
Forwarder & shipper assn. traffic	7,677	7,404
All other carloads	47,276	47,367
LCL traffic	163	162
Total Cars Loaded	**353,229**	**348,842**
Cumulatirve total,	1982	1981
47 weeks	**17,000,828**	**19,853,631**
Estimated revenue ton-miles (billions), 47 weeks	**728.8**	**836.0**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Nov. 13 totaled 39,315 cars (11.4% above the corresponding 1981 week) and 68,927 trailers or containers (up 9.8% from 1981). Cumulative volume for the first 46 weeks of 1982 is 1,699,263 cars (up 9.5% from 1981) and 2,992,427 trailers or containers (up 7.1% from 1981).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the ten-day period ended Oct. 31 totaled 4.7 million metric tons (down 28.5% from 1981). Cars loaded totaled 75,993 (down 27.2% from 1981). Cumulative loadings for 1982 were 170.1 million metric tons (down 11.6% from 1981).

- *Metropolitan Dade County Transportation Administration.*—Awarded a $4.3-million contract to Cubic Western Data for installation of automatic fare collection equipment in all 20 of its stations. The microprocessor-controlled faregates will accept fares in coins and in plastic magnetic strip, multi-ride monthly tickets. Installation will take place between Nov. 1, 1983, and Nov. 1, 1984. The Dade County faregates will be similar to those that Cubic has supplied to the Metropolitan Atlanta Rapid Transit system.

- *New York City Transit Authority.*—Awarded a $3.2-million contract to Railway Systems Design Co. of Wilmington, Del., to supervise execution of three communications contracts totaling $23 million: (1) Installation of five miles of telephone cable and ancillary equipment on IRT lines (Acolyte Electric Co. of Long Island City is the apparent lower bidder); (2) installation of a new communications system linking the command center in Brooklyn with train dispatchers and towermen on all subway lines (a $5.3 million contract has been awarded to the F. Garofalo Electric Co. of Whitestone, N.Y.); and (3) installation of signal and communication systems on new subway lines in Queens (Union Switch & Signal Division of American Standard holds a $17.7 million contract for this work).

NYCTA also awarded a $1.36-million contract to Nissho Iwai for the supply of three one-ton crane cars. Delivery is to begin in April 1984.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	October		**September**	**Ten months**	
	1982	**1981**	**1982**	**1982**	**1981**
Built new by carbuilders	650	2,656	913	14,536	37,137
Build new in RR shops	240	244	54	1,348	2,986
Built new—total	890	2,900	967	15,884	40,123
Rebuilt	147	115	139	1,186	962
TOTAL DELIVERED	**1,037**	**3,015**	**1,106**	**17,070**	**41,085**
Locomotives (new and rebuilt)	31	55	35	388	610

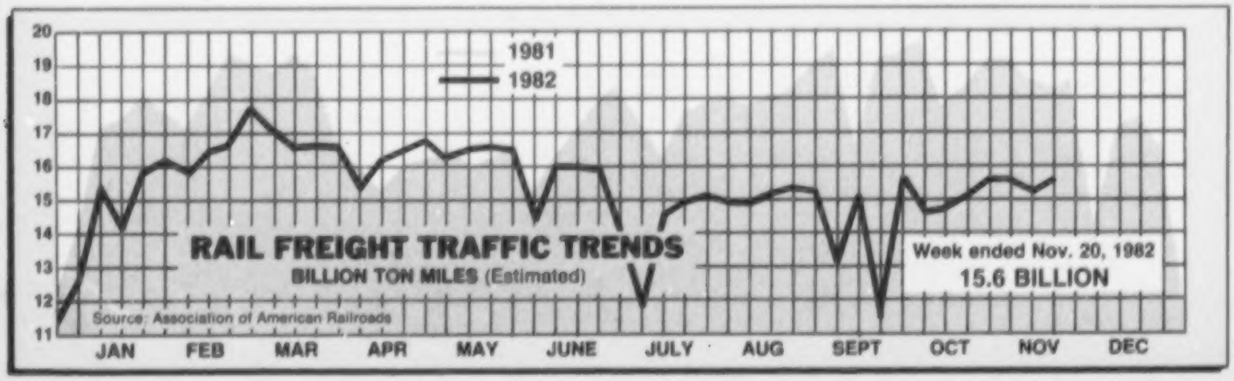
ORDERED

	October		**September**	**Ten months**	
	1982	**1981**	**1982**	**1982**	**1981**
To be built new by carbuilders	134	638	583	5,841	14,662
To be built new in RR shops	750	375	0	750	628
To be built new—total	884	1,013	583	6,591	15,290
To be rebuilt	0	0	600	600	1,100
TOTAL ORDERED	**884**	**1,013**	**1,183**	**7,191**	**16,390**

ON ORDER AND UNDELIVERED

	November 1		**October 1**	**Average Backlog**	
	1982	**1981**	**1982**	**1982**	**1981**
To be built new by carbuilders	4,710	16,685	5,337	8,575	30,377
To be built new in RR shops	573	2,146	558	858	2,882
To be built new—total	5,283	18,831	5,895	9,433	33,259
To be rebuilt	314	138	461	359	292
TOTAL ON ORDER	**5,597***	**18,969**	**6,356**	**9,792**	**33,551**
Locomotives (new and rebuilt)	86	184	75	155	322

*Due to revisions and cancellations of some orders, the Nov. 1, 1982, backlog has been reduced by 606 cars.



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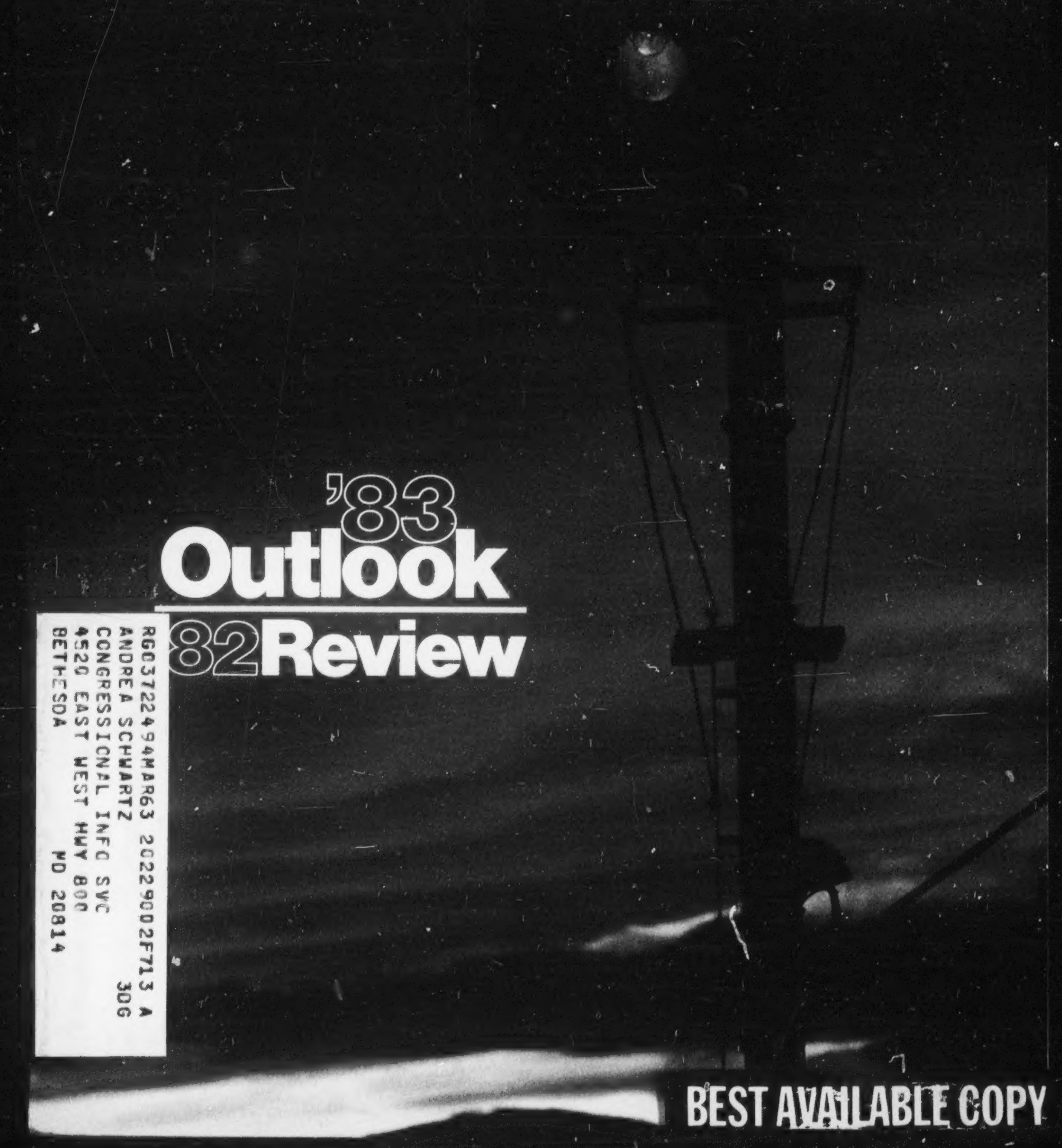
...hat Graham Claytor wants for Amtrak

January 1983

RAILWAY AGE

...for the new age of railways



'83 Outlook
'82 Review

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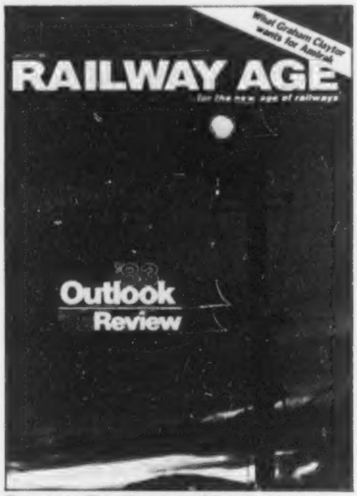
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RAILWAY AGE
for the new age of railways
'83
Outlook
Review

Cover: Burlington Northern photo by Richard Steinheimer. *Page 21.*

Features

21 '83 Outlook: A slow start —with the options open

Railroads started 1982 with big capital budgets—and then had to cut back; in '83 they're starting small but will be ready to expand if conditions improve.

24 Freight cars: Beginning the slow climb back

New-car deliveries dropped to around 18,000 in '82, and will show little if any improvement this year. The five-year outlook is for a gradual return to normal.

26 Locomotives: Bleak times for the builders

With many units in storage, and with some railroads stepping up rebuild programs, construction activity among builders is low—but R&D activity isn't.

27 Fixed plant: Low traffic, low budgets

Both crosstie and rail renewals dropped in '82—and they are programmed to drop even further in '83. But a traffic turnaround could change the picture.

32 '82 Review: How railroads weathered the storm

They suffered short-term losses in traffic and revenues; but they made important gains in productivity, and went into the new year with new competitive muscle.

38 Rail transit: Finding new funding

Despite discouraging words from Washington, transit agencies were able to place near-record equipment orders; and planning for new rail starts continued.

43 Graham Claytor charts a new course for Amtrak

It won't be easy to cut costs and at the same time improve service, but Amtrak's new president is trying. He also has some long-range new equipment plans.

46 Burlington Northern: Big switch at Cicero

As the emphasis shifts from humping cars to lifting trailers and containers, Cicero Yard is fast on the way to becoming a busy, efficient intermodal terminal.

51 Thrall's THETA-80: A different kind of car

The first covered hopper car prototype specifically designed to meet the high-performance specifications of Track-Train Dynamics is now ready for testing.

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THETA-80

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Inside

A new RAILWAY AGE

LUTHER S. MILLER

"What you have been reading in the papers is true. The freight railroads of the United States are in the midst of an extraordinary renaissance..."

Those were the opening words of an article which the editors of *Railway Age* wrote for a special section of *Fortune* magazine last September. We haven't changed our minds, despite the industry's worsening short-term situation in the intervening months. The ability of the railroad industry to stay alive in times like these—and even, in a modest way, to prosper—suggests that when good times return, they will be good times indeed.

What we are seeing, when we peer through the clouds of recession, is the emergence of a whole new railroad industry—a leaner industry; an industry more finely attuned to the needs of the marketplace.

It is a time of change; and in the spirit of the times, *Railway Age* is also changing. Effective with this issue, we have switched to an expanded monthly format, more finely attuned, we believe, to the needs of our own marketplace.

We have expanded our feature section, so that we can continue to cover *all* of the industry *all* of the time. We have expanded old departments and added new ones.

Our hopes—for ourselves, and for the industry we have served for 107 years—are expressed in our new logo: "Railway Age...for the *new* age of railways."

Passenger cars, freight cars: A role reversal

The bad news for equipment suppliers in 1982 (p. 24) was that new freight-car orders sank to around 7,000—about $240 million worth (or less, considering the bargain prices that were being quoted). The good news (p. 39) was that the rail passenger-car market boomed: Orders worth more than $1.5 billion went on the books. Most of these orders went to foreign builders, but about half of the money will be spent for U.S. components.

It was a curious role reversal—passenger-car buyers outspending freight-car buyers by 6-to-1; and one that freight-car buyers hope won't soon be repeated.

Market Outlook

Equipment

Indian Railways: Will use proceeds of a $400-million World Bank/International Development Association loan to help finance a $1.2-billion modernization program that will include the testing of up to 20 prototype AC electric locomotives and acquisition of 11,300 high-capacity freight cars.

MARTA: Hitachi Ltd. of Japan, which is supplying 30 transit cars to the Metropolitan Atlanta Transit Authority, has selected the Garrett Corp. to supply electric propulsion systems valued at approximately $10 million. Delivery will begin in fourth quarter 1983.

Facilities

City of Philadelphia: General Railway Signal is the apparent low bidder on a contract (worth approximately $12.5 million) to design, supply, install and test a signaling and communications system for the city's new high-speed commuter-rail connection.

Greater Cleveland RTA: Trustees approved the sale of $9.2 million in capital improvement bonds (bearing an interest rate of 10.375%) to Prudential-Bache Securities, Inc., of New York. Proceeds will be used to pay the local share of rapid transit capital improvement projects.

Los Angeles County Transportation Commission: Has chosen Parsons Brinckerhoff-Kaiser Engineers to perform engineering, design and environmental work, estimated to cost up to $1.3 million, for the proposed Los Angeles-Long Beach light rail line. Total cost of the project is estimated at $250-$300 million; construction is to begin in April 1984.

Raymond Kaiser Engineers Inc.: Received a contract to perform final design work on a $116-million railroad relocation project in Lafayette, Ind. The project—which will take five years to complete once design work is finished in January 1984—will eliminate 42 existing grade crossings.

Freight cars and locomotives

DELIVERED

	November 1982	November 1981	October 1982	Eleven months 1982	Eleven months 1981
Built new by carbuilders	525	1,839	650	15,061	38,976
Build new in RR shops	85	224	240	1,433	3,210
Built new—total	610	2,063	890	16,494	42,186
Rebuilt	140	91	147	1,326	1,053
TOTAL DELIVERED	**750**	**2,154**	**1,037**	**17,820**	**43,239**
Locomotives (new and rebuilt)	39	45	31	427	655

ORDERED

	November 1982	November 1981	October 1982	Eleven months 1982	Eleven months 1981
To be built new by carbuilders	249	860	134	6,090	15,522
To be built new in RR shops	0	0	750	750	628
To be built new—total	249	860	884	6,840	16,150
To be rebuilt	0	0	0	600	1,100
TOTAL ORDERED	**249**	**860**	**884**	**7,440**	**17,250**

ON ORDER AND UNDELIVERED

	December 1 1982	December 1 1981	November 1 1982	Average Backlog 1982	Average Backlog 1981
To be built new by carbuilders	4,378	15,802	4,710	8,194	29,052
To be built new in RR shops	488	1,922	573	824	2,794
To be built new—total	4,866	17,724	5,283	9,018	31,846
To be rebuilt	174	47	314	342	270
TOTAL ON ORDER	**5,040***	**17,771**	**5,597**	**9,360**	**32,116**
Locomotives (new and rebuilt)	69	166	86	147	307

*Due to revisions and cancellations of some orders, the Dec. 1, 1982 backlog has been reduced by 56 cars.

Estimated ownership—all revenue freight cars

November 1, 1982 vs. November 1, 1981

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRs	1982	284,628	168,451	136,467	296,705	87,286	56,206	23,284	1,053,027
	1981	318,532	173,396	142,841	307,625	91,608	59,213	26,018	1,119,233
Class II & S&T Cos.*	1982	51,604	9,389	10,541	12,727	4,734	3,407	3,370	95,772
	1981	54,859	9,091	11,174	13,422	4,823	3,654	3,267	100,290
Railbox-Railgon	1982	24,926		3,999					28,925
	1981	24,981		4,000					28,981
RRO&C** Refgs.	1982						3,940		3,940
	1981						3,302		3,302
Private	1982	530	129,890	27,738	21,291	52,961	5,462	189,203	427,075
	1981	731	126,859	25,605	20,981	52,607	8,376	190,532	425,691
GRAND TOTAL	1982	361,688	307,730	178,745	330,723	144,981	69,015	215,857	1,608,739
	1981	399,103	309,346	183,620	342,028	149,038	74,545	219,817	1,667,497

* Class II railroads and switching and terminal companies.
** Railroad owned and controlled refrigerator car lines.
Source: Transportation Division, AAR

Market Indicators

New and rebuilt equipment installed 1971-1982

Year	Freight cars	Diesel-electrics
1971	60,633	1,276
1972	49,983	1,577
1973	59,170	1,384
1974	67,409	1,395
1975	73,992	840
1976	53,630	567
1977	53,817	992
1978	68,774	1,378
1979	96,532	1,978
1980	86,628	1,666
1981	45,925	793
1982*	19,500	450

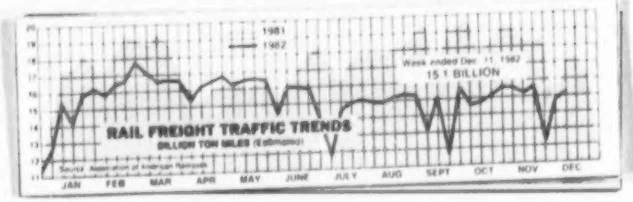
Railroad revenue per ton-mile

Year	Cents	1971 = 100
1971	1.593	100.0
1972	1.618	101.6
1973	1.617	101.5
1974	1.853	116.3
1975	2.041	128.1
1976	2.191	137.5
1977	2.286	143.5
1978	2.358	148.0
1979	2.599	163.2
1980	2.852	179.0
1981	3.155	198.1
1982*	3.230	202.8

Motor vehicles shipped, 1971-1982

Year	Total shipped	% Railroad
1971	10,638,000	52.5
1972	11,270,000	52.2
1973	12,637,000	52.0
1974	10,058,000	55.2
1975	8,985,000	53.6
1976	11,477,000	51.5
1977	12,639,000	50.7
1978	12,871,000	52.1
1979	11,456,000	49.9
1980	8,067,000	53.2
1981	7,956,000	56.4
1982 (9 mos.)	6,226,000	60.0

* Estimated
Source: AAR



Revenue freight carloadings

Commodity	Dec. 11 week	% change from 1981	Dec. 4 week	% change from 1981	Nov. 27 week	% change from 1981
Grain	20,962	(14.0)	23,952	(4.4)	19,191	(11.6)
Other farm products	5,855	(3.0)	6,091	13.2	5,407	3.7
Metallic ores	13,880	41.8	10,838	(58.6)	10,753	(42.3)
Coal	103,960	18.2	96,215	(21.3)	78,427	(26.1)
Crushed stone, gravel & sand	7,913	(19.7)	8,438	(16.2)	5,941	(20.8)
Nonmetallic minerals	10,361	3.7	10,189	(7.1)	7,318	2.0
Grain mill products	12,164	7.1	11,868	(6.2)	9,544	(14.0)
Food & kindred products	12,949	8.9	12,933	(9.9)	10,310	(15.8)
Primary forest products	14,208	24.1	14,101	(21.0)	10,352	(18.3)
Lumber & wood products (except furniture)	6,058	(1.6)	6,121	5.0	4,866	8.0
Pulp, paper & allied products	15,041	(16.0)	16,459	(11.1)	14,246	(16.5)
Chemicals & allied products	20,005	(10.7)	21,562	(9.0)	16,681	(15.5)
Petroleum products	4,520	(10.9)	4,545	(15.6)	3,652	(17.5)
Stone, clay & glass products	8,676	(23.2)	9,373	(16.0)	7,857	(13.9)
Coke	3,695	(36.2)	3,856	(36.9)	3,293	(37.5)
Metals & products	6,295	(47.1)	7,197	(41.4)	5,129	(50.8)
Motor vehicles & equipment	14,594	3.1	13,193	1.5	9,593	(7.8)
Waste & scrap materials	6,892	29.6	6,529	(30.8)	5,137	(32.3)
Forwarder & shipper assn. traffic	7,408	20.5	7,024	(20.3)	5,714	(23.4)
All other carloads	48,350	9.6	45,574	10.8	36,634	6.4
LCL traffic	190	28.0	148	(45.2)	126	(22.2)
Total Cars Loaded	**343,976**	**15.4**	**336,206**	**(16.0)**	**270,189**	**(18.9)**

Cumulative total,	1982	1981
48 weeks	17,271,017	20,186,587
49 weeks	17,607,022	20,586,994
50 weeks	**17,951,033**	**20,933,441**

Estimated revenue ton-miles (billions)

	1982	1981
48 weeks	741.0	850.2
49 weeks	775.9	867.1
50 week	**771.0**	**884.2**

Piggyback loadings

Week ended	Cars loaded 1982	Cars loaded 1981	% change from 1981	Trailers loaded 1982	Trailers loaded 1981	% change from 1981
Nov. 20	40,134	36,666	9.5	70,550	66,108	6.7
Nov. 27	30,827	29,343	5.1	53,384	51,740	3.2
Dec. 4	39,282	34,032	15.4	68,545	60,761	12.8

Canadian carloadings

	Week ending Nov. 7	Week ending Nov. 14	Week ending Nov. 21	Nine days ending Nov. 30
Carloads	55,357	59,474	58,972	77,302
% change from 1981	(23.2)	(12.6)	(21.3)	(11.2)
Metric tons (millions)	2.5	3.9	3.8	5.0
% change from 1981	(25.2)	(10.6)	(21.9)	(13.2)
Cumulative tonnage	173.6	117.4	181.3	186.4
% change from 1981	(13.5)	(11.9)	(12.1)	(12.1)

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Lines on Labor

CR and its people: Did relationships have to be so bad?

Just a few years ago, morale at Conrail was pretty bad (and that's about the politest assessment that can be made of the situation). It wasn't all that great in the supervisory ranks, and it was downright awful among contract employees. R.B. Hennessy, vice president-human resources, says the adversary relationship was as bad as any he had ever seen, and he's familiar with those relationships in a number of industries, including the mining industry.

GUS WELTY

So, Conrail and Bob Hennessy decided to try to do something about it, figuring that they had very little to lose by trying and that the potential was there for accomplishing something positive. What evolved were three different approaches to employer-employee cooperation, undertaken at three different locations (each of which was a hot spot). And each approach has worked.

Three ways to go— and each pays off

At Pittsburgh, for example, CR began a resource-management program in which small groups of employees were asked to look at various operations to see if they could come up with more efficient ways of getting the jobs done. And it turned out that they could indeed: Their ideas have made operations better, and at lower cost. As a result, similar programs are being set up at other system points.

Then, there was the situation at Altoona, where CR was being plagued by a rash of wildcat strikes, sitdowns, what have you, over the smallest of issues. Here, committees were set up by function, departmentally, and again the idea was to encourage development of better ways of doing things. This approach, too, has worked—with the best evidence perhaps being the fact that the wildcats, the sitdowns, don't happen any more.

In the beginning, however, there was Cleveland, a point where relationships of a positive nature were virtually nonexistent. Hennessy went to Cleveland and began talking with local managers and supervisors and with local union leaders. He laid it out: If all-concerned were interested in saving Conrail and in saving their jobs, things had to change. People had to begin working together, he said, and he kept on saying that for about three months, because that's how long it took to convince both contract and some exempt personnel that this idea of creating a joint improvement committee might actually work. But finally the committee, made up of two local union officers and a mid-level supervisor from management, got down to business, seeking out suggestions for improving the Cleveland operation. Gradually, the program picked up steam. Today, Hennessy calls the joint committee "a tremendous success."

The cooperative approach: It all depends upon trust

Of course, Conrail is benefitting from all of these programs, in the sense that the ideas generated have made operations more efficient and more economical. But, Bob Hennessy emphasizes, the real benefits go far beyond the tangible: In the long run, the attitude changes which have taken place may be the most important benefit of all. And no, winning these changes in attitudes is not an easy task, where either union people or management is concerned. But Hennessy likens railroad employees in some respects to the miners he dealt with earlier in his career: They can be motivated— and if they trust you, they'll go a long way with you. Many if not most are long-service employees who want good jobs and want to be able to take pride in their work. But that element of trust is vital— and winning trust sometimes means that management has to be more frank, open and flexible than management sometimes tends to be. And don't tell Conrail that it can't happen, that employer-employee cooperation is just another impossible dream. Says Bob Hennessy: "We've tried it—and it works."

Class 1 railroad employment

Employee Group	No. of employees, mid-month count November 1982	Percent of change November 1982 from November 1981	
		November 1981	October 1982
Total-all Employees	358,474	d 15.94	d 2.49
Executives, officials and staff assistants	16,216	d 7.25	d .75
Professional, clerical and general	76,250	d 11.77	d 1.23
Maintenance of way and structures	70,716	d 14.68	d 7.32
Maintenance of equipment and stores	68,385	d 23.51	d .82
Transportation (other than train, engine and yard)	17,211	d 10.44	d 1.80
Transportation (yardmaster, switch-tenders, and hostlers)	6,553	d 12.06	d .05
Transportation (train and engine service)	103,143	d 16.56	d 1.53

Source: ICC

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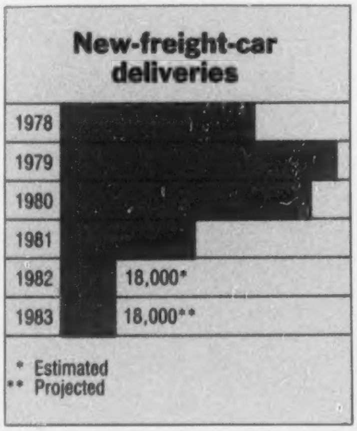
'83 Outlook

Freight cars:

A slow climb back

Over the next five years, builders see a gradual return to the 55,000-60,000 production level. 1983 could be as lean in deliveries as '82, but orders are expected to strengthen.



A few weeks ago, a major railroad asked for bids on new freight cars. This was no 1,000-car order. It involved two types of specialized cars, in small-run numbers.

And what response did the railroad get? Sighed the sales vice president of one carbuilder, "Around that railroad's headquarters, it was like you were at a suppliers' convention."

That's the way it was in 1982. That's the way it will be, at least for openers, in 1983. When all '82 numbers are in, it's likely that they will show deliveries of 18,000 new freight cars—and orders for only about 7,000. Going into '83, carbuilders and component suppliers are looking for nothing much better on deliveries, 18,000 or so, but they are figuring that orders will go up substantially, to 20,000, perhaps a few thousand more.

If the numbers talked about at the December forecasting meeting of the American Railway Car Institute turn out to be right, 1984 will see recovery continuing, with orders again surpassing deliveries—43,000-or-so cars ordered, about 36,000 delivered.

If ARCI's updated five-year projections are straight, from a low of 18,000 cars delivered in '83, the total will climb to between 55,000 and 60,000 by the end of the period.

Those numbers for the later-'80s are respectable. The question is, will they turn out to be realistic?

Certain assumptions have to be made. One is that economic recovery will eventually come. A second is that when it does, railroad freight traffic will go up. A third is that rail traffic may show a greater growth rate than that of the economy itself because of rail fuel efficiency and other economies of scale. A fourth is that railroad consolidations, coupled with improved management controls and labor agreements that increase productivity are making the railroads a lean industry that will not again grow fat.

- **Pondering the imponderables.** Certain other assumptions also have to be made, so far as freight-car fleet planning is concerned. And this gets planners into gray areas. For one thing, nobody really knows what will happen to freight-car utilization when business picks up. For another, nobody really knows how many freight cars are out of service now, railroad-owned cars plus private cars, and nobody can say how many of these cars will someday go back into service as opposed to how many will be scrapped. And, now, nobody knows what the freight-car construction capacity of the carbuilding industry may be when the demand for new cars builds up again.

Construction capacity? It used to be well over 100,000 cars a year. Now, you can get a wide range of guesses, but they average out at a number well above what's being forecast as annual demand for the foreseeable future. The only thing wrong with this kind of estimating is that nobody can say how much capacity will remain by the time that demand actually does pick up.

During the period when new-car deliveries were going from 85,500 in 1980 to 45,000 in 1981 to 18,000 in 1982, conventional thinking had it that capacity would stay high because almost every major carbuilder was part of a larger enterprise, a conglomerate, and so the parent could afford to keep the subsidiary going even during slack times. This proved to be true in '82: There were fewer drop-outs from the carbuilding business than might have been expected.

But it remains to be seen how long "parents" will want to continue to support offspring (adopted, in many cases) that don't produce. Rumors already have a half-dozen or so builders getting out of the railroad business, and some of those rumors involve old-line builders.

One problem is that nobody can say for sure where the future really is, in carbuilding. Most builders do not see a return to the days when they could set up a line to build 1,000-car orders. But railroads do not seem certain as to how they are going to go about keeping the car fleet adequate, or even as to what kinds of cars are going to be in demand. Some roads would just as soon get rid of old, high-maintenance cars, other roads see a potential in rebuilding older equipment. Some roads are looking at getting replacement cars by buying or leasing somebody else's surplus equipment. Some roads see greater standardization coming, others see an increasing trend toward special cars.

- **Who will survive?** Interestingly, as the rumor mill grinds, it does not chew up those carbuilders who have maintained a decent research-and-development effort despite the recession and the drying-up of orders. Companies such as Portec, FMC, Berwick, Thrall Car and ACF do not show up on "hit" lists. Nor do companies which are highly specialized such as Ortner. The major tank-car companies remain on the "viable" lists, probably because of projected growth in chemical traffic and rail market share of that traffic. And, perhaps surprisingly, few people seem ready yet to write off Pullman Standard, even though PS could go through not one year but

FMC Photo

two years without producing anything except a few intermodal prototype cars: PS is still PS, and it would be hard for either customers or competitors to accept a carbuilding industry without it. (PS very much agrees that it should not be counted out, and intermodal is the immediate reason. Pullman currently has two single-axle prototype cars in test operation, one equipped with UIC trucks and the other with British Rail trucks, and it will outshop a third prototype in February, this one fitted with another type of British truck. As for the market, PS sees as many as four major railroads ready to come into the intermodal market in '83—and, PS people are saying, they can be ready to deliver cars in the second half of the year.)

There are, of course, a couple of markets that show at least some signs of growth. One is the intermodal market. A second is the coal-car market. A third is the grain-car market, long-run.

Intermodal is the market that has been widely recognized, with a dozen-and-a-half intermodal cars—maybe more—either in service, under test or in the design stage. Intermodal could be the salvation of a couple of carbuilders, especially as the need for a new generation of intermodal cars becomes more apparent. But here, the problem may be that there are so many new designs to test that no one—or even two or three—may soon emerge as the one—or two or three—to go with.

Thus far, Burlington Northern and Trailer Train have been the principal testers of intermodal equipment, BN more than TT. But neither BN nor TT has made up its corporate mind, totally, and so experimentation continues, while nobody is sure just what length or weight of intermodal car is going to do it for the next generation.

Coal cars? Here, too, the goal is to get a structurally-sound car that weighs less, a car that will carry more coal—and some current emphasis is on aluminum construction, with one prototype in service and at least one more coming. The first aluminum car, built in Europe by Alusuisse, will carry about 111 tons of coal and has about 145,000 miles under its trucks in tests on Santa Fe, with tests on BN coming up. The second will come from Berwick, which has been working with Reynolds. The third could come from Alusuisse, which has been working on a hopper-car design.

Then, there's the matter of the jumbo covered hopper car for grain. These 100-ton cars have proved to be a problem, in the sense that they have accounted for more derailments than they should have in proportion to their numbers in the car fleet. Two years ago, the AAR's Track-Train Dynamics program came up with a set of performance specifications for new covered-hopper designs, and now the first car built to those specs is under test. It's a car built by Thrall, with a new suspension system designed by ASF, and it features a lower and shorter carbody with a lower center of gravity, along with a suspension system that should show distinct advantages in reducing both truck-hunting and rock-and-roll. Budd may be next with a prototype.

• **Targeting the markets.** But what kind of markets are involved? They could be big markets—eventually.

Increases in highway trailer lengths—to 45 feet now, probably to 48 or 50 feet soon—have already sent Trailer Train and others back to the drawing board to get piggyback cars that will handle the longer highway units, but a sizeable number of today's TOFC cars simply won't make it. New cars, articulated or drawbar-coupled, are coming.

For coal cars, the new wave will have to do with light weight. Builders of all-steel cars have gone about as far as they can go, in reducing tare weight to increase payload while still remaining within the 263,000-pound weight-on-rail limit. Aluminum, almost inevitably, will be coming.

For grain cars? The 100-ton car, the car with capacity of 4,700 cubic feet or thereabouts, will continue to be the standard, and there are a lot of them around, in service and out. But the next generation of grain cars will have to be a generation of cars that perform better.

Today, there are 200,000 or 250,000 or 300,000 freight cars standing idle, depending upon what estimates you can find for railroad-plus-private cars. But those totals don't matter all that much, because many of those cars are in the "dog" category, no matter if they are listed as stored-serviceable.

As of mid-1982, railroad-owned freight cars had an average age of about 15 years. Private cars were younger, but they still averaged better than 10 years of age. Those numbers indicate that there will be a market for new equipment—specialized equipment and lightweight equipment and easily-maintained equipment, but new equipment—when the railroad freight-traffic market begins to build up again. The question is: When will the buildup come? ■

Transit: Finding new funding

Innovative financing methods made 1982 a near-record year for new-car orders. And despite official discouragement, several cities continued to forge ahead with planning for new rail starts.

By BILL FAHRENWALD,
Associate Editor

In the face of an apparently inevitable decline in federal support (at least for operating funds), transit interests across the nation spent much of 1982 learning how to secure increased local and other aid that still might not equal the loss of federal funds.

Perhaps the most dramatic shift was made by the largest system in the U.S.—New York's MTA. Despite federal cutbacks, that system has managed to find creative ways of funding a $7.9 billion, five-year capital improvement program. It has ordered nearly 1,700 new rail cars—many to be purchased with help from the modified safe harbor leasing law. For the private sector, that method of financing came under attack from Senate Finance Committee Chairman Robert J. Dole (R-Kans.). He pushed through legislation that substantially weakened those tax benefits for private companies. But NYMTA's Chairman Richard Ravitch managed to win a special exemption that actually increased the amount of time safe harbor leasing will apply to transit.

Other cities were not about to give up their plans without a fight, either. In Atlanta, the extension of a local sales tax, a tougher stance toward labor, and negotiated (rather than bid) procurement contracts are among the methods being used to help stretch federal and local construction dollars for MARTA. Some other sunbelt cities are joining forces now to try to revive funding for new starts.

- **Higher local share?** A proposal backed by Sen. Richard G. Lugar (R-Ind.), chairman of the subcommittee on housing and urban affairs, would allow new rail starts if the local contribution towards construction were raised from 20% to 40%. Cities such as Atlanta, Houston, and Los Angeles would probably be able to fund such a match. More significantly, Secretary of Transportation Drew Lewis was talking about reopening federal aid to new rail starts in connection with the gas tax proposal.

Even without federal help, Houston and Los Angeles are both making plans to build new rail systems. In Los Angeles, engineering work has started on a light rail line to Long Beach that will be built with funds from a county sales tax and other state sources. Houston plans to use a combination of cash payments, vendor financing, lease and lease purchase agreements, public non-profit development corporation bonds, and farebox revenue bonds to construct an 18.2-mile rapid rail transit system.

This is the sort of activity the Administration has been trying to encourage. The Urban Mass Transportation Administration has issued brief transit financing fact sheets which "demonstrate that many state and local governments are successfully developing stable funding sources for transit," according to UMTA. The fact sheets outline three such sources:

—Motor vehicle user charges, including taxes on fuel, vehicle taxes, and tolls.

—Broad-based taxes such as retail sales, property, payroll, and income.

—Joint public/private initiatives in the form of joint developments that are subject to special assessments on real estate owners and developers who benefit from improved transit.

- **The need: $50 billion.** Despite those options, and the action by some properties to take advantage of them, there remains the $50 billion question. $50 billion is the amount of capital investment, in 1982 dollars, that Lewis says transit will need over the next decade. With local matching funds the current federal program is about $3 billion annually. Even the addition of $1.1 billion in gas tax revenues would not bring capital spending up to that level.

If the money is found, there is also a question of how it will be spent. The domestic supply industry is in poor health and current trends are not improving its condition. The subject was addressed in a recent proposal by the Railway Progress Institute: "Under current conditions, whereby capital grant money is being cut substantially in real terms and only rolling stock is eligible for safe habor leasing, it is very likely that available capital grant money will be used to finance foreign hardware in connection with safe harbor leasing. This undoubtedly would result in the death of the domestic transit industry."

RPI has proposed a five-point legislative program: 1) continue the federal capital assistance program, 2) enact the increased gas tax with one cent for transit, 3) extend the investment tax credit for public transit purchases, 4) expand safe harbor leasing provisions for transit and 5) provide low interest, long term federal loans for procurement of passenger transportation capital needs—and restrict the loans to U.S. products.

These proposals, and other new plans, demonstrate that reliance on traditional federal funding programs is decreasing. At the same time, the withdrawal of federal aid is not as rapid as the Administration would like. There are those who predict that the complete abolition of operating assistance will never be accomplished.

Nevertheless, the Administration is managing to reduce federal outlays for transit. This year will see continued attempts to stretch federal dollars further, and to replace lost federal funds with money from a variety of new, or previously little used sources. ■

Baltimore Metro's first revenue trains will run in '83. Late '82 photo shows test train approaching Reisterstown Plaza station.

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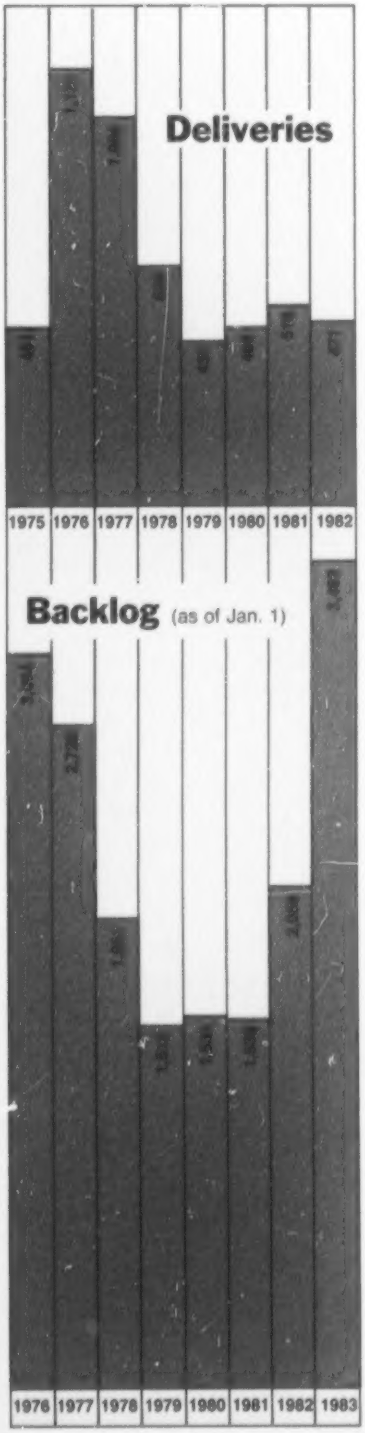
Passenger-car market at a glance



These cars were delivered in 1982:

Purchaser	No. of Cars	Type	Builder
Amtrak	97	Intercity	Budd
Baltimore	10	Rapid Transit	Budd
Chicago (CTA)	108	Rapid Transit	Budd
Chicago-Northern Indiana (RTA-NITA-CSS&SB)	12	Commuter (self-propelled)	Sumitomo (Nippon Sharyo)
Cleveland (GCRTA)	39	Light Rail	Breda
Edmonton	4	Light Rail	Siemens DuWag
New Jersey (NJ Transit)	74	Commuter	Bombardier
Philadelphia (SEPTA)	69	Light Rail	Kawasaki
	16	Rapid Transit	Kawasaki
San Diego (MTDB)	10	Light Rail	Siemens DuWag
San Francisco (Muni)	1	Light Rail	Boeing Vertol
Toronto (GO Transit)	3	Commuter	Hawker-Siddeley
Toronto (TTC)	8	Light Rail	UTDC Hawker-Siddeley
VIA Rail Canada	20[1]	Intercity	Bombardier
Total	**471**		

Work goes forward on this undelivered backlog:

Purchaser	No. of Cars	Type	Builder
Amtrak	37	Intercity	Budd
Atlanta (MARTA)	30	Rapid Transit	Hitachi America C Itoh
Baltimore (MdMTA)	90	Rapid Transit	Budd
Buffalo (NFTA)	26[2]	Light Rail	Tokyu Car
Calgary	5	Light Rail	Siemens DuWag
Chicago (CTA)	482	Rapid Transit	Budd
Chicago-Northern Indiana (RTA-NITA-CSS&SB)	32	Commuter (self-propelled)	Sumitomo (Nippon Sharyo)
Cleveland (GCRTA)	60	Rapid Transit	Tokyu Car
Detroit (SEMTA)	13	Light Rapid Transit	UTDC (turnkey contract)
Edmonton	16	Light Rail	Siemens DuWag
Metro-North	142	Commuter	Budd
Commuter Railroad Co (New York MTA)	6	Commuter	Bombardier
Miami (MDCTA)	136	Rapid Transit	Budd
Miami (DCM)	12	People Mover	Westinghouse Electric Kawasaki
New Jersey (NJ Transit)	43	Commuter	Bombardier
New York (MTA-LIRR)	174	Commuter	Budd
New York (NYCTA)	325	Rapid Transit	Nissho Iwai American (Kawasaki)
	825	Rapid Transit	Bombardier
	225	Rapid Transit	Westinghouse-Amrail
Philadelphia (SEPTA)	3	Light Rail	Kawasaki
	107	Rapid Transit	Kawasaki
Pittsburgh (PAT)	55	Light Rail	Siemens DuWag
San Francisco (BART)	150	Rapid Transit	SOFERVAL
San Francisco (Muni)	30	Light Rail	Boeing Vertol
Toronto (GO Transit)	68	Commuter	Hawker-Siddeley
Toronto (TTC)	24	Light Rapid Transit	UTDC
VIA Rail Canada	50	Intercity	Bombardier
Washington	296	Rapid Transit	Breda
Total	**3.462**		

Orders likely to develop in 1983:

Purchaser	No. of Cars	Type
Boston (MBTA)	55	Light Rail
Metro-North Commuter Railroad Co (New York MTA)	3	Commuter
Metro-North Commuter Railroad Co (New York MTA-CDOT)	109	Commuter
Philadelphia (SEPTA)	6	Rail Diesel
Sacramento Transit Dev Agency	26	Light Rail
Toronto (TTC)	81	Light Rail
	60	Rapid Transit
Total	**340**	

The five year (1984-1988) outlook:

Purchaser	No. of Cars	Type
Amtrak	70-100	Intercity
Atlanta (MARTA)	0-230	Rapid Transit
Calgary	0-35	Light Rail
Chicago (CTA)	0-376	Rapid Transit
Chicago (RTA)	0-66	Commuter
Detroit (SEMTA)	17-45	Commuter
	0-75	Light Rail
Edmonton	0-10	Light Rail
Los Angeles (SCRTD)	100-150	Rapid Transit
Montreal	52	Rapid Transit
New Jersey (NJ Transit)	30	Commuter
PATH	50-100	Rapid Transit
Philadelphia	0-25	Light Rail
	0-25	Rapid Transit
	8	Rail Diesel
Sacramento Transit Dev. Agency	0-15	Light Rail
San Diego (MTDB)	15	Light Rail
San Francisco (BART)	150	Rapid Transit
San Francisco (Muni)	0-10	Light Rail
Toronto (TTC)	66	Rapid Transit
VIA Rail Canada	150-185	Intercity
Total	**708-1,768**	

[1] The 20 cars delivered to VIA in 1982 were previously recorded as delivered in 1981

[2] NFTA's initial order of 33 cars has been cut to 26

Third quarter figures of calendar year 1982

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Way & structures			Equipment											
		Freight	Other	Total 1982	Total 1981	Total 1982	Total 1981	1982 Deprec.	Total 1982	Total 1981	1982 Deprec.	Total 1982	Total 1981	Operating Ratio 1982	Operating Ratio 1981	Income after fixed charges 1982	Income after fixed charges 1981	1982 Net Ry. operating income	Net income 1982	Net income 1981
Amtrak	3 mos.	—	157,537	157,537	355,621	32,170	26,545	7,461	74,852	93,894	17,916	303,987	333,849	192.96	93.87	(171,801)	948	(146,450)	(171,801)	948
	9 mos.	—	405,357	405,357	930,369	89,423	67,432	19,091	227,696	226,711	50,223	907,895	971,821	223.97	104.45	(570,597)	(93,290)	(502,538)	(570,597)	(93,290)
Atchison, Topeka & Santa Fe	3 mos.	514,899	9,376	524,275	613,961	77,623	107,287	3,686	114,872	128,916	22,918	484,530	566,560	92.41	92.27	35,895	39,027	34,209	30,129	31,289
	9 mos.	1,558,154	31,204	1,589,358	1,805,389	225,004	303,723	10,910	365,518	385,627	68,634	1,491,745	1,669,990	93.85	92.50	14,883	114,404	80,684	57,184	84,217
Baltimore & Ohio	3 mos.	207,070	10,276	217,346	281,240	54,038	65,134	2,199	45,286	67,286	7,302	220,007	266,566	101.22	94.78	(7,802)	11,014	2,746	(3,226)	9,212
	9 mos.	676,938	31,186	710,124	777,498	169,546	162,063	5,487	159,934	179,753	22,201	716,696	741,251	100.92	95.33	(10,981)	50,558	952	(5,570)	37,028
Bessemer & Lake Erie	3 mos.	17,899	4,838	22,737	35,071	4,243	4,382	—	1,921	4,084	(107)	21,096	22,945	92.78	65.42	2,243	14,805	1,861	2,464	10,297
	9 mos.	51,810	12,670	64,480	86,731	10,902	11,660	2,127	9,667	7,256	4,114	63,481	60,341	98.45	69.57	3,709	32,106	1,322	4,029	18,971
Boston & Maine	3 mos.	28,693	1,188	29,881	30,036	7,019	7,366	337	8,456	7,849	360	31,473	31,793	105.32	105.84	(335)	(465)	(1,522)	(528)	(658)
	9 mos.	87,552	3,854	91,406	91,557	18,658	19,301	984	25,501	23,611	1,083	93,635	93,054	102.43	101.63	1,648	1,873	(2,019)	1,069	1,290
Burlington Northern	3 mos.	911,681	22,484	934,165	1,044,903	233,190	220,283	6,476	185,849	199,334	17,760	894,791	947,026	95.78	90.63	55,757	105,378	31,862	48,235	65,439
	9 mos.	2,722,489	69,202	2,791,691	3,056,491	604,724	581,400	19,164	587,114	625,553	55,376	2,671,611	2,796,935	95.69	91.50	134,752	287,921	87,994	102,637	196,847
Chesapeake & Ohio	3 mos.	230,955	12,309	243,264	314,538	59,908	53,649	1,997	47,369	54,812	3,320	228,239	245,749	93.82	78.13	12,743	80,047	25,521	23,176	56,804
	9 mos.	762,668	36,966	799,734	744,286	165,965	145,761	5,857	166,773	162,568	9,537	719,568	689,331	89.97	92.61	112,234	110,891	54,434	86,270	86,345
Chicago & North Western	3 mos.	181,657	26,275	207,932	244,815	54,251	65,251	1,416	48,693	57,878	4,454	215,261	253,144	103.52	103.40	(12,906)	(13,992)	(5,883)	(12,912)	(9,871)
	9 mos.	536,759	73,559	610,318	755,876	132,497	167,536	4,160	153,813	174,113	13,127	633,855	741,832	103.85	98.14	(22,931)	(890)	(18,961)	(22,949)	8,183
Chicago, Milwaukee, St. Paul & Pac.	3 mos.	75,758	11,783	87,541	104,128	26,302	34,454	771	26,853	27,086	3,694	105,006	125,279	119.95	120.31	1,533	7,793	(16,947)	3,084	3,276
	9 mos.	249,352	34,605	283,957	310,202	67,497	68,556	2,351	82,468	94,043	11,086	315,377	356,497	111.06	114.92	2,792	187,059	(31,359)	(10,166)	180,887
Clinchfield	3 mos.	24,576	220	24,796	30,029	6,684	5,170	127	5,431	3,807	962	24,089	20,907	97.14	69.62	(8)	3	1,116	—	—
	9 mos.	76,102	1,050	77,152	77,814	16,737	13,980	370	14,678	11,481	2,933	67,290	58,166	87.21	74.75	—	11	11,464	—	—
Conrail	3 mos.	672,406	149,953	822,359	1,019,373	222,834	236,331	6,789	210,417	248,090	37,139	885,340	1,041,632	107.65	102.18	(61,985)	(33,644)	(62,727)	(25,108)	(32,721)
	9 mos.	2,171,156	460,328	2,631,484	3,046,741	579,336	574,629	21,264	682,058	788,579	112,400	2,720,504	3,120,440	103.38	102.41	(92,670)	(104,542)	(88,175)	(20,541)	(102,108)
Delaware & Hudson	3 mos.	25,952	1,538	27,490	30,488	6,306	6,343	159	7,224	8,144	870	29,728	32,559	108.14	106.79	(4,484)	(4,645)	(2,144)	(4,484)	(4,645)
	9 mos.	81,608	3,543	85,151	89,659	19,291	16,583	481	22,465	24,812	2,608	91,572	95,324	107.54	106.31	(12,940)	(11,489)	(6,128)	(12,940)	(11,489)
Denver & Rio Grande Western	3 mos.	67,171	1,608	68,779	87,388	13,001	16,442	663	13,026	13,766	3,106	66,000	75,543	95.95	86.44	2,671	12,388	2,533	2,435	7,170
	9 mos.	220,442	4,993	225,435	250,687	40,595	45,760	1,936	42,089	38,508	9,071	208,190	216,395	92.35	86.32	16,107	33,677	12,966	11,832	19,526
Detroit, Toledo & Ironton	3 mos.	15,290	616	15,906	21,179	2,844	5,872	119	5,765	5,650	952	19,242	21,880	120.97	103.30	(3,738)	(1,355)	3,332	(3,738)	(1,355)
	9 mos.	50,267	1,988	52,255	65,858	11,227	12,802	356	18,655	18,102	2,861	62,636	65,015	119.86	98.71	(11,508)	(1,583)	(10,369)	(11,508)	(1,583)
Duluth, Missabe & Iron Range	3 mos.	10,718	516	11,234	40,629	6,601	9,329	913	2,153	3,173	561	15,636	26,355	139.18	64.86	(3,153)	15,874	(2,757)	(1,544)	8,647
	9 mos.	43,551	1,740	45,291	89,810	17,413	21,737	2,671	7,505	9,678	1,674	51,424	66,586	113.54	74.14	(2,922)	26,080	(4,344)	(1,186)	14,326
Elgin, Joliet & Eastern	3 mos.	11,704	7,176	18,880	28,384	3,031	4,256	194	2,493	4,755	1,858	18,727	25,607	99.18	90.21	915	4,341	(266)	496	1,900
	9 mos.	41,767	27,480	69,247	86,615	10,983	11,062	584	6,569	11,813	5,591	61,367	73,095	88.62	64.39	11,246	17,953	2,659	6,025	9,316
Florida East Coast	3 mos.	21,368	295	21,663	24,447	5,961	7,093	317	3,065	3,897	1,016	19,471	22,244	89.88	90.98	3,998	3,570	820	2,626	2,257
	9 mos.	65,696	927	66,623	76,973	16,687	20,372	959	9,784	11,840	3,032	58,656	67,571	88.04	87.78	13,353	14,338	3,638	9,024	9,591
Grand Trunk Western	3 mos.	54,440	3,136	57,576	52,849	9,005	8,683	463	12,456	11,109	1,212	58,747	54,293	102.03	102.73	(2,429)	(2,319)	(846)	(2,087)	(1,554)
	9 mos.	177,366	8,823	186,189	170,051	26,781	23,951	1,368	40,379	35,211	3,613	184,513	168,093	99.09	98.84	(383)	(842)	3,137	1,089	1,198

Illinois Central Gulf	3 mos.	185,651	20,275	205,926	257,707	51,234	55,985	2,061	68,891	71,108	6,437	237,678	266,922	115.41	103.57	(33,154)	(17,989)	(28,407)	(30,290)	(16,668)
	9 mos.	623,095	60,351	683,446	774,875	154,192	157,672	5,940	213,256	211,830	19,552	763,268	789,586	111.67	101.89	(70,546)	(27,768)	(74,459)	(66,643)	(25,739)
Kansas City Southern	3 mos.	69,471	3,033	72,504	81,026	15,355	16,694	784	16,046	15,679	5,188	66,838	67,515	92.18	83.32	3,068	10,247	5,463	2,840	7,516
	9 mos.	227,024	9,976	237,000	232,123	47,621	45,135	2,304	50,241	45,700	15,584	208,396	195,894	87.93	84.39	20,476	27,273	23,641	15,499	20,410
Long Island	3 mos.	2,666	100,110	102,776	102,488	24,782	21,847	857	25,446	25,579	1,547	115,113	108,893	112.00	106.24	(12,352)	(6,674)	(11,279)	(12,352)	(6,674)
	9 mos.	9,773	296,848	306,621	284,935	72,035	61,365	2,571	76,919	71,370	4,554	338,138	313,219	110.27	109.92	(31,840)	(28,964)	(28,274)	(31,840)	(28,964)
Louisville & Nashville	3 mos.	257,323	3,754	261,077	324,358	49,714	58,620	1,797	67,138	66,857	9,766	254,118	286,839	97.33	88.43	(2,829)	32,080	10,594	(575)	27,787
	9 mos.	832,020	15,552	847,572	943,198	151,074	161,727	5,434	211,140	202,896	30,152	805,181	851,033	94.99	90.22	18,024	72,158	47,635	18,563	62,740
Missouri-Kansas-Texas	3 mos.	53,748	4,051	57,799	68,816	10,993	14,750	345	14,659	17,258	2,346	54,543	63,822	94.36	92.74	1,017	2,880	3,424	1,017	3,880
	9 mos.	169,034	9,892	178,926	205,558	29,189	39,050	1,017	47,796	55,120	7,325	166,794	189,689	93.21	92.28	4,456	8,547	12,626	4,456	11,547
Missouri Pacific	3 mos.	397,527	11,930	409,457	474,066	74,507	88,002	2,698	94,474	104,902	17,648	374,574	420,312	91.48	88.66	27,246	48,548	33,171	23,050	34,979
	9 mos.	1,260,350	40,257	1,300,607	1,424,220	200,585	230,245	7,834	304,736	316,095	52,132	1,149,582	1,243,365	88.38	87.30	130,468	164,217	123,622	95,329	113,468
Norfolk & Western	3 mos.	365,440	14,724	380,164	501,650	116,775	83,577	3,602	66,288	74,420	14,629	364,344	356,907	95.83	71.14	61,744	160,443	16,871	37,528	92,712
	9 mos.	1,306,928	47,869	1,354,797	1,293,713	268,203	219,751	10,675	230,019	208,766	43,321	1,085,812	988,818	80.14	76.43	360,772	343,056	156,967	220,479	197,538
Pittsburgh & Lake Erie	3 mos.	9,601	143	9,744	24,480	1,516	4,083	45	4,939	2,088	315	15,334	18,001	157.36	73.53	(6,483)	7,227	(4,188)	(5,166)	22,911
	9 mos.	35,211	2,277	37,488	63,444	7,400	10,527	129	10,683	8,317	884	47,751	54,531	127.37	85.95	(14,739)	5,413	(8,573)	(13,150)	20,715
St. Louis Southwestern	3 mos.	74,870	1,344	76,214	96,409	12,098	16,338	613	17,105	19,978	5,925	69,603	84,248	91.32	87.38	7,144	9,548	4,563	5,096	5,550
	9 mos.	260,797	4,053	264,850	288,631	39,530	49,594	1,621	58,593	52,562	17,837	232,021	252,000	87.60	87.30	36,640	30,599	22,784	26,595	19,865
Seaboard Coast Line	3 mos.	268,538	7,792	276,330	327,727	48,826	63,388	2,434	70,872	78,644	8,137	270,492	311,974	97.88	95.19	8,315	54,227	13,397	14,849	42,487
	9 mos.	857,442	27,966	885,408	998,951	161,139	177,248	7,234	227,590	234,580	26,721	868,672	924,720	98.10	92.56	60,210	159,704	28,755	70,356	153,873
Soo Line	3 mos.	67,703	1,601	69,304	85,239	18,498	25,745	467	14,339	14,906	2,058	66,783	76,395	96.36	89.62	3,552	11,532	1,993	2,807	7,917
	9 mos.	212,014	4,500	216,514	244,631	46,624	57,468	1,321	46,505	44,026	6,095	200,187	208,405	92.45	85.19	19,904	39,786	9,935	12,881	25,418
Southern	3 mos.	377,837	9,203	387,040	464,294	64,885	83,293	4,748	83,085	87,320	21,254	346,783	383,363	89.59	82.56	38,768	75,548	28,983	26,367	48,341
	9 mos.	1,191,127	28,441	1,219,568	1,339,901	189,725	208,857	14,573	247,672	247,682	62,795	1,047,345	1,079,820	85.87	80.58	174,411	248,678	114,858	113,097	159,975
Southern Pacific	3 mos.	457,493	15,477	472,970	558,266	69,870	89,020	4,779	132,208	150,006	21,707	487,824	566,431	103.14	101.46	(5,125)	(8,830)	(2,854)	6,875	4,187
	9 mos.	1,501,773	49,312	1,551,085	1,714,623	247,709	264,992	14,193	449,598	435,923	65,050	1,606,923	1,697,215	103.59	98.98	(11,482)	16,086	(43,838)	518	25,938
Union Pacific	3 mos.	424,370	6,004	430,374	523,065	66,798	89,555	3,365	88,253	100,010	24,160	377,583	457,014	87.73	87.37	44,318	54,179	36,573	28,030	42,111
	9 mos.	1,342,636	18,367	1,361,003	1,598,652	206,469	252,200	9,723	262,327	304,438	72,999	1,218,354	1,367,197	89.51	85.52	124,989	193,784	96,867	78,928	129,388
Western Maryland	3 mos.	21,014	786	21,800	23,175	6,021	7,126	218	1,360	2,661	1,444	17,115	20,532	78.50	88.59	5,532	3,157	1,997	2,835	2,113
	9 mos.	63,785	2,143	65,928	66,311	14,550	17,325	646	7,844	7,735	4,425	52,757	57,786	80.02	87.14	15,387	8,932	6,158	8,349	5,354
Western Pacific	3 mos.	42,654	592	43,246	47,667	6,977	8,941	135	9,976	12,017	1,772	44,376	52,776	102.61	110.71	(1,882)	10,947	(105)	(887)	9,286
	9 mos.	132,416	1,729	134,145	143,514	21,767	23,675	366	30,937	33,626	5,339	139,124	149,058	103.71	103.86	(2,199)	10,572	(3,284)	(594)	8,901

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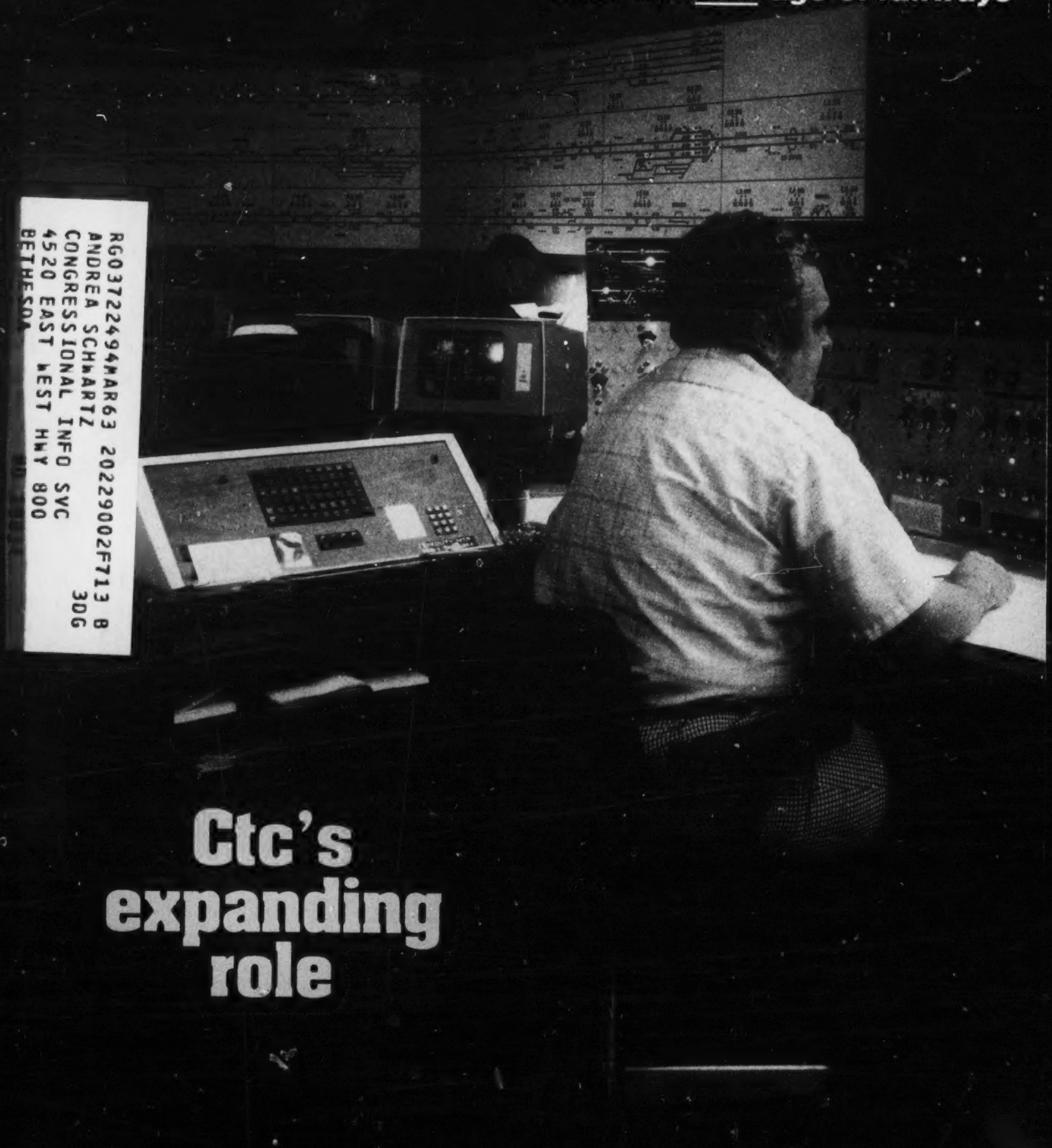
ebruary 1983

The good-track roads: CN Rail

...for the new age of railways



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Ctc's expanding role

RAILWAY AGE

...for the new age of railways

RAILWAY AGE
...for the new age of railways
Ctc's expanding role

Cover: UP ctc board at North Platte, Neb.
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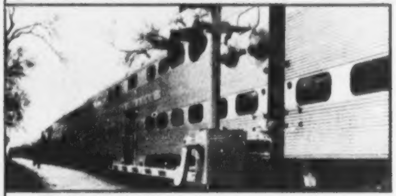

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25 A growth market for ctc

The number of route miles equipped with ctc has been steadily increasing. This indicates a growth in core mileage, despite the decrease in total track mileage.

26 Provo's big leap forward: From no signaling to full ctc

Anticipating a heavier volume of coal traffic in the near future on its Provo subdivision, Union Pacific is equipping the line with 83 miles of ctc.

28 SP strives for simplicity

Two new ctc installations employ the SP-Safetran track model board. It's easily adaptable to changing conditions and is now standard on SP.

29 CN Rail's home-made ctc

CN's computerized traffic-control system automatically handles routine dispatching. The system's third installation is scheduled for next month at Kamloops, B.C.

31 CN Rail: A whole new m/w system

Mechanization has helped CN put its track in excellent condition. Now the railroad is reorganizing its work crews to maintain that excellence.

34 Railroads in 1982: A statistical review

A tabular and graphic summary of Class I railroad performance in 1982, covering traffic trends, earnings, and other financial data.

44 Grass-roots railroading

CV and B&M have teamed up to provide an expanded intermodal service whose main attraction to shippers is consistent reliability.

47 Grain cars: Is pooling the answer?

Reactions are mixed to BN's new proposal to pool its own covered hoppers with those of its shippers. Some shippers feel BN would be the chief beneficiary.

49 Refining the art of railcar suspension

Stucki has been working with the problems of railcar dynamics for over 70 years now, and the company's commitment to R&D has not slowed down.

51 Chicago: A comeback story

Ridership on Chicago's commuter roads sagged when fares went up; but an improved equipment/service package promises to reverse the trend.

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Inside

Trucks, trains and the 97th

LUTHER S. MILLER

As the Surface Transportation Act of 1982 blitzed through the lame-duck session of the 97th Congress, the trucking industry rose in protest. Passage of this legislation, warned the American Trucking Associations, would be catastrophic for truckers. Not only would it increase the gasoline and diesel fuel tax; it would also double the fees that heavy trucks pay to use the highways.

(The railroad industry took no official position on the legislation, though in the interests of "competitive equity" it has long fought for higher user charges for trucks.)

The legislation did pass; President Reagan did sign it on Jan 6; and as a result, a heavy tractor-trailer rig will soon be paying not $3,000 a year to use federally-provided rights-of-way but more than $6,000. But did the truckers really lose so much?

They also won, in this law, the right to operate 80,000-pound, 48-foot single trailers—or double 27-foot combinations—in all 48 contiguous states.

On balance, which mode will benefit most from this legislation? Some answers are suggested in our story on p. 21.

Altogether, January 1983 was a memorable month for rail-trucking news. The day after the President signed the Transportation Act, the ICC lifted restrictions on railroad trucking—a decision that could prove to be a landmark on the road to total transportation companies (p. 20).

The Barriger library finds a home

Among the many accomplishments of John W. Barriger III was his assembly of what has been called one of the world's most extensive private collections of North American railroad history, a collection now valued at about $1 million and numbering more than 10,000 volumes together with 250,000 mounted photographs and other historical items from his 60-year railroad career.

Preservation of the collection is now assured, with its donation by the Barriger family to the Mercantile Library at St. Louis, which will establish the John W. Barriger III Railroad Library as a memorial to the man who had been president of four railroads—Monon, Pittsburgh & Lake Erie, Katy, and Boston & Maine. John Barriger died in 1976, after numerous retirements, still working on the railroad, this time the Rock Island.

Market Outlook

Equipment

Backlog: The backlog of new freight cars on order and undelivered stood at 4,295 on Jan. 1, compared with 5,040 on Dec. 1, 1982 and 17,385 on Jan. 1, 1982. December 1982 new orders totaled 231, compared with 249 in November and 2,711 in December 1981. Deliveries totaled 939 in December 1982, compared with 750 in November and 2,758 in December 1981.

Burlington Northern: Ordered 300 center-beam flat cars from Thrall Car Manufacturing Co., and 150 100-ton high-cube box cars from United-American Car Co., with Youngstown Steel Door supplying sides and double plug doors for the box cars. Addition of the 300 cars from Thrall will double the size of BN's center-beam fleet. Deliveries are scheduled for second-quarter 1983.

Houston Metro: Can-Car-Rail of Canada (Hawker-Siddeley) is the apparent low bidder, at $110.9 million, for the supply of 130 75-ft stainless steel cars for the Houston Metro. The high bid of $256.4 million was submitted by Marubeni America. Other bidders: C. Iwoh-Hitachi, $137.1 million; Alsthom Atlantique, $142.8 million; Mitsui & Co., USA Inc. (Tokyu Car), $146.9 million; Westcamrail (a consortium of Francorail of France, Westinghouse Electric of the U.S., and Metro Cammell of Britain), $157 million; Nissho Iwai-Kawasaki, $177.6 million; Budd Co., $187.1 million; Sumitomo, $196.8 million; MBB Transit of Germany, $246.4 million. Each bidder also submitted financing packages. A decision on the contract is to be made by Mar. 31.

Pittsburgh Railcar, Inc.: Won a contract worth up to $500,000 for repair of 80 100-ton open-top hoppers owned by Greenville Steel Car and leased to Consolidated Coal.

U.S. DOD: The first of 114 new 140-ton flatcars being built for the Army at a cost of $13.9 million came off the assembly line at the Thrall Car plant in Chicago Heights in January. The new cars will join 101 procured in 1981 for the Defense Railway Interchange Fleet. An additional 324 cars are to be acquired by FY 86.

Facilities

Conrail: Is seeking FRA approval for installation of traffic control systems in Illinois between Casey and Avena, 56½ miles, and between Smithboro and Altamont, 49 miles.

CP Rail: Will install eight new hotbox detectors valued at more than $1.6 million along its lines in Ontario this year. This will bring the total number of detectors on the railroad to 57, of which 15 were installed in 1982.

Long Island: Awarded the following contracts in connection with its five-year capital improvement program: $5.5 million to Gibbs & Hill/Dyer for final design of signal improvements on the four main line tracks between Jamaica, L.I., and Penn Station; $7.1 million to Corddry, Carpenter, Dietz and Zack for final design of shops and related structures at the m/e facility to be built at the Hillside/Holban Yard in Queens (including a new electric car repair shop and undercar cleaning facility, a wheel truing facility, wheel shop, motor shop, and paint shop).

Southern Pacific: Will rehabilitate the former Rock Island Armourdale Yard at Kansas City, at a cost of $12.6 million. Aided by $5 million in guaranteed loans from the federal government, SP will concentrate on 16 classification tracks, four receiving/departure tracks, the yard lead, and the locomotive service facility. Going in are nine miles of cwr, 29,000 new ties, 61,000 tons of ballast, 42,000 cubic yards of limestone, 77 new turnouts, and a new drainage system. Work began in January.

Zambian Railways: Awarded a contract worth $8.6 million to the Aydin Corp. for a communications system. The work will be performed by the Aydin Monitor Systems Division at Fort Washington, Pa. Microwave and special communications equipment will be provided. It will take two years to complete the system.

Estimated ownership—all revenue freight cars

December 1, 1982 vs. December 1, 1981

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRs	1982	282,214	167,604	135,483	293,972	86,502	57,984	23,194	1,046,953
	1981	316,813	173,565	142,662	306,797	91,287	59,160	25,967	1,116,251
Class II	1982	51,105	9,525	10,444	12,257	4,778	3,404	3,342	94,855
& S&T Cos.**	1981	54,999	9,095	11,184	13,399	4,837	3,631	3,278	100,423
Railbox-	1982	24,922		3,999					28,921
Railgon	1981	25,010		4,000					29,010
RRO&C***	1982						4,231		4,231
Refgs.	1981						2,970		2,970
Private	1982	495	129,732	27,908	21,240	53,794	3,086	188,702	424,957
	1981	717	127,649	25,884	20,901	53,057	8,093	191,342	427,643
GRAND	1982	358,736	306,861	177,834	327,469	145,074	68,705	215,238	1,599,917
TOTAL	1981	397,539	310,309	183,730	341,097	149,181	73,854	220,587	1,676,297

**Class II railroads and switching terminal companies.
***Railroad owned and controlled refrigerator car lines.
Source: Transportation Division, AAR.

Market Indicators

1983 U.S.
Industrial Outlook

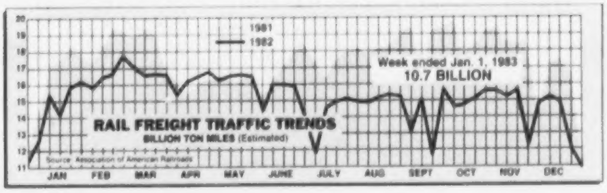
Industry title	1982-83 % change	1981-82 % change
Truck & bus bodies	29.8	3.6
Motor vehicles & car bodies	26.1	−4.2
Automotive stamping	26.1	−4.2
Steel mill products	24.6	−21.5
Truck trailers	20.7	−3.1
Electronic computing equipment	17.8	10.9
Iron & steel foundries	14.3	−27.0
Sawmills & planing mills	12.3	−8.2
Household refrigerators & freezers	12.1	−17.9
Wood household furniture	8.9	−14.6
Ball & roller bearings	5.0	−3.9
Industrial trucks & tractors	4.8	−13.2
Malt beverages	4.2	4.3
Petroleum refining	4.0	1.3
Construction machinery	4.0	−29.2
Meat packing plants	3.3	0.0
Radio & TV sets	3.3	−6.9
Hoists, cranes & monorails	3.2	−19.7
Farm machinery & equipment	2.3	−15.0
Motorcycles, bicycles & parts	2.2	−18.8
Aircraft	−1.9	−21.9
Ship buildings & repair	−4.9	−9.4
Agricultural chemicals	−7.9	−11.9
Machine tools, metal-forming types	−33.4	−28.3

Source: U.S. Department of Commerce, Jan. '83

1982 Profile
Railroad freight cars

Value of product shipments (mil $)	1,076
Value of exports (mil $)	136
Value of imports (mil $)	59
Exports as a % of shipments	12.6
Imports as a % of new supply	5.2

Source: Bureau of the Census and Bureau of Industrial Economics.



Revenue freight carloadings

Commodity	Jan. 1 week	% change from 1982	Dec. 25 week	% change from 1981	Dec. 18 week	% change from 1981
Grain	16,969	(9.4)	19,217	16.3	23,421	0.3
Other farm products	3,809	(13.5)	3,590	8.5	5,057	12.7
Metallic ores	9,667	(48.7)	10,342	(34.3)	11,802	(48.0)
Coal	61,104	(34.5)	81,226	1.7	102,905	(15.7)
Crushed stone, gravel & sand	5,123	(9.6)	4,171	(2.6)	7,139	(9.8)
Nonmetallic minerals	9,014	5.4	8,377	20.9	10,008	(11.8)
Grain mill products	10,124	(1.1)	10,099	8.0	12,154	(2.9)
Food & kindred products	9,923	(10.7)	10,052	1.8	11,833	(14.0)
Primary forest products	9,275	(14.1)	7,607	12.3	11,679	(20.7)
Lumber & wood products (except furniture)	4,699	21.2	4,940	27.8	6,191	1.2
Pulp, paper & allied products	10,407	(12.8)	12,234	0.1	14,894	(16.0)
Chemicals & allied products	20,138	(8.7)	16,234	(6.2)	18,846	(13.1)
Petroleum products	3,951	(8.6)	3,752	6.7	4,695	(9.0)
Stone, clay & glass products	6,879	(17.7)	6,503	(5.0)	7,843	(17.2)
Coke	3,664	(18.5)	4,147	(1.0)	3,733	(29.4)
Metals & products	4,976	(48.8)	4,701	(39.2)	6,443	(44.0)
Motor vehicles & equipment	5,344	20.8	8,667	8.5	13,355	1.2
Waste & scrap materials	4,121	(26.3)	4,718	(3.7)	6,501	(23.8)
Forwarder & shipper assn. traffic	4,972	(8.7)	5,892	0.5	7,464	(15.4)
All other carloads	31,092	16.0	36,524	36.3	49,820	18.0
LCL traffic	109	17.4	104	(11.1)	177	7.3
Total Cars Loaded	**235,360**	**(18.5)**	**263,097**	**3.6**	**335,960**	**(12.2)**

Cumulative total,	1982	1981	% change
51 weeks	18,287,013	21,359,402	(14.4)
52 weeks	**18,550,199**	**21,613,387**	(14.2)
	1983	1982	
1 week	235,360	288,767	(18.5)

Estimated revenue ton-miles (billions)

	1982	1981	% change
51 weeks	785.9	900.5	(12.7)
52 weeks	**797.8**	**910.2**	(12.3)
	1983	1982	
1 week	10.7	12.6	(15.6)

Piggyback loadings

Week ended	Cars loaded 1982	Cars loaded 1981	% increase from 1981	Trailers loaded 1982	Trailers loaded 1981	% increase from 1981
Dec. 11	40,781	36,547	11.6	71,877	65,864	9.1
Dec. 18	41,415	36,060	14.9	73,061	64,608	13.1
Dec. 25	31,516	24,270	29.9	55,307	43,072	28.4
52 weeks	1,923,225	1,749,319	9.9	3,385,172	3,145,672	7.6

Canadian carloadings

	Week ending Dec. 7	% change from 1981	Cumulative	% change from 1981
Carloads	61,115	(13.7)	2,949,208	(13.6)
Metric tons (millions)	4.0	(13.4)	190.4	(12.2)
	Week ending Dec. 21			
Carloads	53,801	(21.4)	3,060,271	(13.8)
Metric tons (millions)	3.5	(22.1)	197.5	(12.5)

Watching Washington

New capital will flow to rail transit

BILL FAHRENWALD

Overall federal transit assistance will rise, but the big transit news in the gas tax bill is a dramatic change in how funds will be distributed. A greater emphasis will be put on capital projects, and operating assistance will actually decline.

For many capital-intensive rail transit systems, that should be good news. A boost in capital money will be warmly welcomed in cities from New York to Houston to Los Angeles. Construction was the primary focus of the gas tax bill; transit spokesmen, in fact, were quick to emphasize that the nation's transit systems are in need of funds for capital investment.

During Congressional deliberations over the legislation, the American Public Transit Association (APTA) produced a list of over $3 billion worth of capital projects ready for immediate implementation. The list included about $2 billion worth of rail-related projects.

The specific distribution of gas tax funds, though, was a source of confusion even weeks after passage of the bill. Complex formulas will determine how transit funding will be apportioned. But there are some simple facts which give an idea of how the funds will trickle down.

Overall UMTA transit funding is set to rise from $3.65 billion in FY 83 to $4.0 billion in FY 84, the first full year of the gas tax. (Equivalent programs in FY 82 received $2.65 billion in federal aid.) Authorized funding levels would continue to rise to $4.15 billion through FY 86, when the authorization expires.

Annually, gas tax revenues will contribute $1.1 billion to a newly created transit account in the Highway Trust Fund. This marks the first time that the fund has been directly used for other than highway subsidization.

In addition to the money authorized over the next four years in the gas tax bill, there will be separate funding for Interstate Transfer grants ($365 million in FY 83); for the Washington, D.C. Metro ($240 million in FY 83); and for various commuter rail projects ($75 million in FY 83.)

Under the new law, the structure of UMTA funding will be dramatically changed. After FY 83, the Section 5 formula grants for capital and operating aid will be eliminated. To replace that source, new Section 9 block grants will be instituted. They can be used for either capital projects or operating funds, but only at a level reduced from FY 82.

Large urbanized areas will be granted operating assistance only up to 80% of FY 82 levels. What is more, reaching that level could mean a penalty in overall funding. Agencies will have the option of converting Section 9 capital funds to operating assistance to reach the 80% ceiling, but the rate of exchange will be unfavorable: Three dollars of capital money will convert to only two dollars of operating aid.

The source of discretionary capital funding, meanwhile, will be changed. Section 3 will become the conduit for distribution of the $1.1 billion in annual gas tax revenues. (In the transitional year of FY 83, however, Section 9 will use gas tax funds and Section 3 will retain its source of funds from the general treasury.)

None of the new Section 3 money will be available for operating assistance. And the federal share of capital funds will be reduced from 80% to 75%. The good news for rail transit is that Section 3 money will be available for new rail starts. But that funding can only come from gas tax proceeds, which means a relatively small amount of money for individual transit agencies. An UMTA spokesman explains, "Transit agencies can use the money for new starts, but if they're planning on building a new rail system on federal money they'd better plan on spending 100 years at it."

Selected Rail Transit Capital Projects Ready for Immediate Implementation

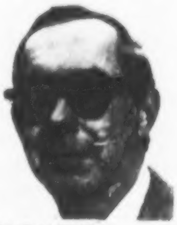
Transit Agency	Project Type	Cost (in millions)
Boston, MBTA	Rolling stock, right of way, bridge, tunnel station, signal and electrification rehabilitation*	$164.0
Buffalo, NFTA	Rail station and right of way construction*	88.1
Chicago, BN	Rail terminal, maintenance facility construction	26.0
Chicago, CTA	Rail facility and equipment rehabilitation*	310.1
Chicago, Northwest Suburban MTD	Rail facility construction	10.0
Chicago, RTA	Right of way and signal rehabilitation*	204.0
Cleveland, RTA	Station and right of way rehabilitation	200.0
Detroit, SEMTA	Engineering, station construction	30.0
Houston, METRO	Right of way and facility construction*	286.2
New York, MTA	Modernization and rehabilitation*	96.0
Philadelphia, SEPTA	Station, right of way, electrification rehabilitation*	96.0
Pittsburgh, PAT	Light rail construction	150.0
Washington, WMATA	Right of way and station construction, rolling stock procurement*	472.0

*Cost also includes one or more bus projects

Source: American Public Transit Association

Lines on Labor

Operating wage scales: They're complex, and yet...



GUS WELTY

If you want to educate yourself on one of the old, old problems of railroading—an old, old problem in a new era—spend a quiet evening sometime browsing through the wage rate tables that tell you how, and how much, operating employees are paid. Take, for instance, the tables applying to train and engine personnel represented by the United Transportation Union, and that can include just about all classes of employees, including engineers and motormen, in all classes of service. As you browse, your eyebrows may go up, your forehead may develop furrows. You may come to appreciate why railroads are turning more and more to the computer to work on t&e payrolls. You may also come to appreciate the magnitude of the job facing the management-labor study commissions that are now looking at all the considerations involved in basis-of-pay. You may no longer wonder why the pay-basis problem has lingered so long, through so many studies.

As you gaze upon these wage-rate tables, your eyes are going to light on such things as weight-on-drivers scales, and car-scale additives, and overtime that's figured in five-minute increments. And of course, your eyes are going to light on the scales involved in the dual basis of pay for t&e employees in road service. At some point, your eyes may glaze over, because the whole system of wage payment seems needlessly complex.

For example, what are weight-on-drivers scales worth today? What are car-scale additives worth? And does overtime have to be reckoned in five-minute segments? The dollars aren't really that big, in terms of the spread.

Take the weight scale. If you're a through-freight fireman on the lightest of all engines, your daily rate is $91.10, and that's for a locomotive of 140,000 pounds or less. If you're working an engine of close to one million pounds, your rate is $94.06. Mileage rates run in similar fashion, with a spread of less than three cents between light and heavy. Car-scale additives don't have numbers that are much more significant. The difference between a train of fewer than 81 cars and a train of 165 cars for a through-freight conductor is less than $1.50, and over-miles additives amount to pennies per mile. And overtime, for yard-service employees? Well, figuring it in five-minute increments does seem a bit much, even though publishing the tables this way does surely give the individual employee an idea of what he's going to get for (almost) each additional minute he's on the job.

All of this is not to say that operating employees or their leaders are stealing money. They aren't. The agreements now in effect were just that, agreements. Management, from years ago, has a lot to answer for, but labor, today, may have something to answer for if it doesn't agree to some changes in the system.

Differentials—and incentives

There are a number of things that are out of kilter in the t&e wage scales, and maybe in even the responsibilities vested in the members of a crew. And there is probably no one way of changing t&e pay scales that will satisfy all concerned—the unions and their members, first, but the railroads, too.

Amtrak has done it one way, for the Northeast Corridor, phasing operating employees into an eight-hour day and a 40-hour week. That works on freight railroads for yard crews and it would probably work on some roads for road crews. But it would not work everywhere, not where management knows that there has to be an incentive for crews to get over the road to meet demanding schedules.

The *new* conventional wisdom is that nothing in railroading is going to be the same or stay the same. This applies to management, to the ways in which railroad operating and marketing departments work. But it also has to apply to the ways in which railroads and rail unions do their thing. And anything less than cooperation just makes the competition look better.

Class 1 railroad employment

Employee Group	No. of employees, mid-month count December 1982	Percent of change December 1982 from December 1981	Percent of change December 1982 from November 1982
Total-all Employees	347,095	d 15.94	d 3.17
Executives, officials and staff assistants	16,101	d 7.87	d .71
Professional, clerical and general	75,143	d 12.55	d 1.45
Maintenance of way and structures	63,154	d 14.84	d 10.69
Maintenance of equipment and stores	67,514	d 23.15	d 1.27
Transportation (other than train, engine and yard)	16,919	d 11.48	d 1.70
Transportation (yardmaster, switchtenders, and hostlers)	6,440	d 13.21	d 1.72
Transportation (train and engine service)	101,824	d 15.82	d 1.28

Source: ICC

User fees: "Did we lose more than we won?"

The fuel-tax legislation that President Reagan signed into law Jan. 6 imposes steeply higher user charges on motor carriers, something the railroads have sought for many years. Fees paid by the average rail-competitive truck will go from an estimated $2,949 currently to $6,357 in 1984 and to $7,242 by 1988—increases that could push the motor carrier industry's operating ratio past 100% (it is now around 98%).

But the truckers also won some important productivity increases in the new legislation. They can now operate 80,000-pound trailers over federally-aided highways in all 48 contiguous states. Missouri, Arkansas and Illinois formerly imposed a 73,280-pound limit, creating what the American Trucking Associations called an "iron curtain" across the Midwest. The legislation also requires all states to allow twin 27-foot trailer combinations on federally-aided highways; previously only 31 states permitted double-bottom operations. And it increases the length limit for single trailers from 45 feet to 48 feet.

The truckers' productivity gains are immediate; their higher user charges will be phased in gradually. As railroaders surveyed the situation in mid-January, they were asking each other: "Did we lose more than we won?"

Most railroad executives interviewed by *Railway Age* regarded the legislation as a plus. They felt that the increased weight and length limits won by the truckers were coming in any case and that it was a fortunate combination of circumstances in December that reduced the impact of these gains by saddling the truckers with higher user charges. The bill was rushed through a lame-duck Congress anxious to enact a law that would create jobs. It's estimated that the main provision of the legislation, a five-cents a gallon increase in gasoline and diesel-fuel taxes, will create more than 300,000 jobs as the extra money is put to work on highway and mass-transit rehabilitation.

"The highway folks had no real opportunity to mass their forces," says one rail lobbyist.

This lobbyist does not downplay the importance of the truckers' gains. "The effects are going to be very large productivity increases," he concedes. "One, they're not faced with a barrier going across the country at 80,000 pounds. Secondly, for these carriers whose freight tends to cube out before it weights out, they get three extra feet on the trailer. They're also able to run two 27-foot trailers which gives them 54 feet in length; that's very important for those carrying ltl and bulk commodities. But at the same time their user charges are going up by over 100%. A trailer going 115,000 miles annually and paying $3,300 more in user charges is going to be paying more than two cents per mile additionally."

Current and newly passed federal highway user charges...

User charge category	Current user charge	Newly passed user charge
Fuel (gasoline & diesel)	4¢ per gallon	9¢ per gallon (Effective 4/1/83)
Heavy vehicle use (Registration fee)[1]	$3/1000 lbs on all trucks over 26K	33-55K: $60 + $25/1000 lbs. over 33K 55-80K: $600 + $40/1000 lbs. over 55K
New Trucks and Trailers	10% on trucks & trailers over 26K gvw (Assessed at Wholesale)	12% on trks over 33K gvw 12% on trls over 26K gvw (Assessed at retail) (Effective 4/1/83)
Truck Parts and Accessories	8% on all truck parts & accessories	Repealed immediately
Tires	9.75¢/lb.	15¢/lb. on 40-69 lbs. 30¢/lb. on 70-89 lbs. 50¢/lb. 90 lbs. & over (Effective 1/1/84)
Tread	5¢/lb.	To be repealed 1/1/84
Tubes	10¢/lb.	To be repealed 1/1/84
Oil	6¢/gallon	Repealed immediately

[1] The rate per 1000 lbs. increases for trucks greater than 55K as follows: 7/1/86: $44/1000 lbs.; 7/1/87: $48/1000 lbs.; 7/1/88: $52/1000 lbs. The maximum amount cannot be greater than the user charge for 80,000 pounds—even if state law permits heavier trucks. Thus, in 1984 the maximum registration fee will be $1,600, and $1,900 in 1988. For owners of 5 or fewer trucks, there is a one-year delay in the effective date of the new charges. For those owners the current registration fees will be assessed through 7/1/85 rather than 7/1/84 and the subsequent increases will also lag one year.

...And how they affect rail-competitive heavy combination trucks

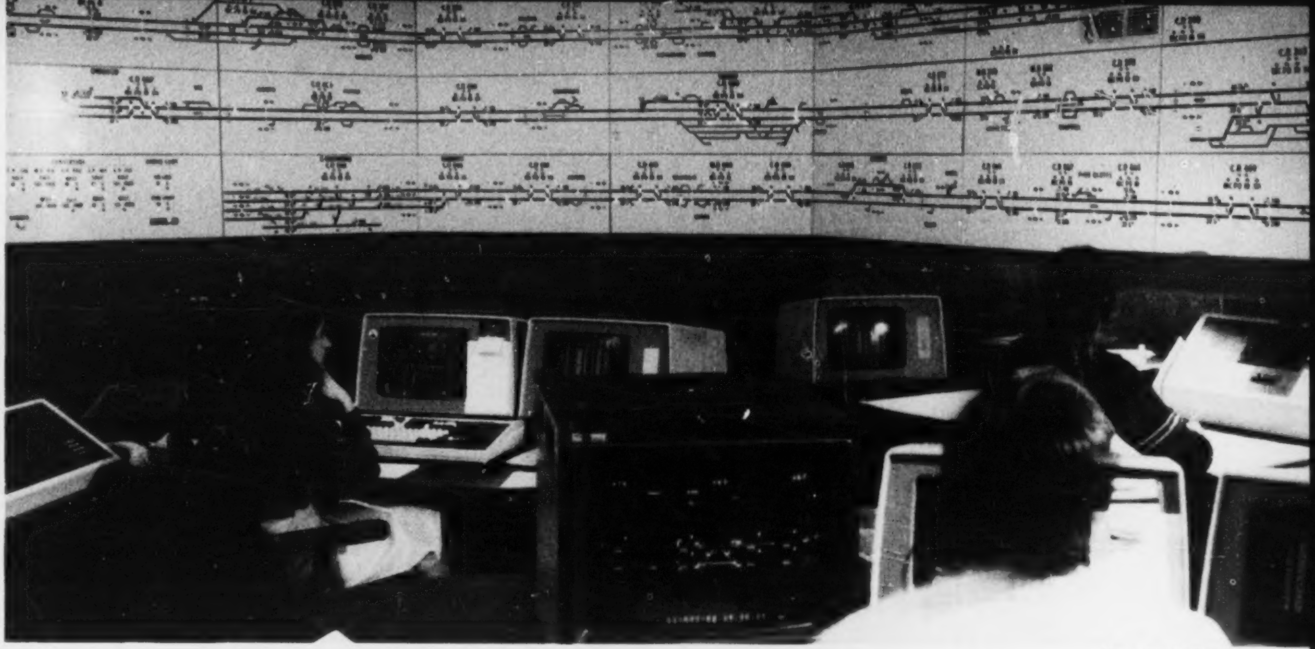
User Charge	Current	Admin.[1]	1984[2]	1988[3]
Fuel	$ 920	$2,070	$2,070	$2,070
Heavy vehicle use	222	2,700	1,600	1,900
Excise—Tractor[4]	1,243	1,492	1,844	2,328
Excise—Trailer[4]	258	310	383	484
Truck Parts & accessories	184	276	0	0
Tires and tread[4]	106	312	460	460
Oil	16	0	0	0
Total	**$2,949**	**$7,160**	**$6,357**	**$7,242**

[1] Originally proposed to Congress by the Administration. If adopted by Congress, this would have more nearly recovered, in 1985, full recovery user charges as determined by the Federal Highway Cost Allocation Study.

[2] Effective in 1985 for owners of five or fewer vehicles.

[3] Effective in 1989 for owners of five or fewer vehicles.

[4] Estimated by use of a consumer price index inflator.



Union Pacific Photo.

A growth market for ctc

As total track mileage shrinks, the number of miles under centralized traffic control continues to grow. Even in a time of depressed business, a number of new projects are in the works.

By GUS WELTY,
Senior Editor

If you want to get a fix on the number of miles of railroad routes that actually matter, as railroads see their traffic future, you could do worse than to look at the number of route miles that have been equipped with ctc.

This is not inexpensive equipment, and railroads do not install it frivolously. Centralized traffic control goes where the traffic is—or will be—heavy.

Over the past decade, railroad installations of ctc have been increasing. The increases have not been dramatic, but the route-mile numbers are going steadily up—which would seem to indicate that while total rail mileage may continue to go down, core mileage is continuing to go up. A second indication that prospects are good for increases in main-line train movements: Signal-system suppliers, including Union Switch & Signal, General Railway Signal and Safetran, are continuing to refine their systems and to come up with new ones.

What the numbers show is slow but steady growth. Ten years ago, railroads in the U.S. had centralized traffic control on 39,830 route miles and 47,060 track miles. Last year, according to their reports to the Federal Railroad Administration, they had ctc on 44,821 route miles and 53,934 track miles.

The numbers go against the trackage trend, at least the trend that the AAR can report. AAR numbers show line mileage going down from 201,585 in 1973 to 179,000 in 1980, the most recent year for which AAR has figures, while those same reports show track mileage dropping from 328,625 in '73 to 290,000 in 1980.

Not every program that goes into a president's office or a board room for approval is going to come out intact, it's true. But it's worth noting that despite down-years both Union Pacific and Southern Pacific were able to make substantial improvements to traffic control systems. It's also worth noting that a number of other major roads have signal programs proposed for '83. Among them: Burlington Northern has been looking toward expenditures of better than $40 million for signal and traffic control equipment, including the centralizing of various dispatching and tower operations and installation of more than 300 miles of ctc, with fairly substantial projects in Nebraska, Montana, Missouri and Wyoming. Missouri Pacific figures on installing almost 140 miles of ctc in Arkansas, Oklahoma and Texas, plus about 550 miles of microwave. Norfolk Southern has approximately $21.2 million in signal and communications improvements planned. Chessie System's S&C budget is even a bit bigger, at $25.4 million. Southern Pacific will be continuing work on a $21-million, three-year project involving ctc and other improvements in the Houston area. Conrail has certain traffic control programs in the plans. And even bankrupt Milwaukee Road will be putting close to $2.5 million into new ctc.

Centralized traffic control at work

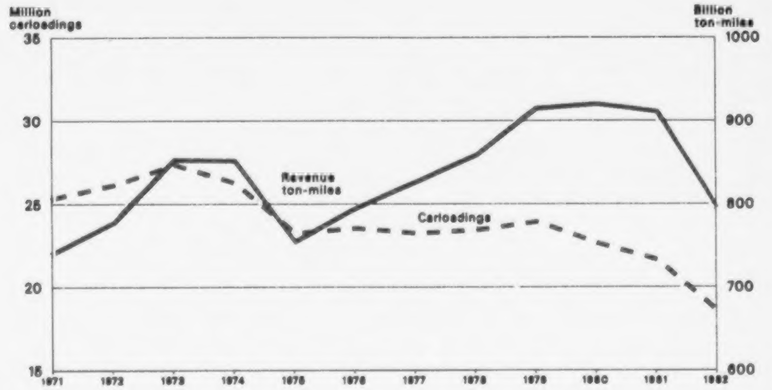
	Route miles	Track miles
ATSF	3,368	4,290
B&LE	133	177
B&M	398	476
BN	6,516	7,195
Chessie System		
B&O	1,116	1,443
C&O	1,762	2,261
WM	34	36
C&NW	404	496
Conrail	4,245	6,461
D&H	344	420
D&RGW	904	966
FEC	316	476
FW&D	122	123
GTW	173	187
ICG	865	961
KCS	618	622
LIRR	77	135
Milwaukee	693	820
MP	2,846	3,250
National Railroad Passenger Corp	350	526
NW	3,479	4,091
P&LE	139	216
RF&P	109	227
Seaboard System		
Clinchfield	271	271
L&N	2,572	2,738
SCL	3,214	3,749
Soo Line	370	370
Southern	1,784	2,364
SP	3,086	3,199
SSW	628	643
UP	2,586	3,329
WP	796	796
Total ctc	**44,821**	**53,934**

Source: Railroad reports to FRA. 1982 installations not included.

Freight railroading in 1982: A

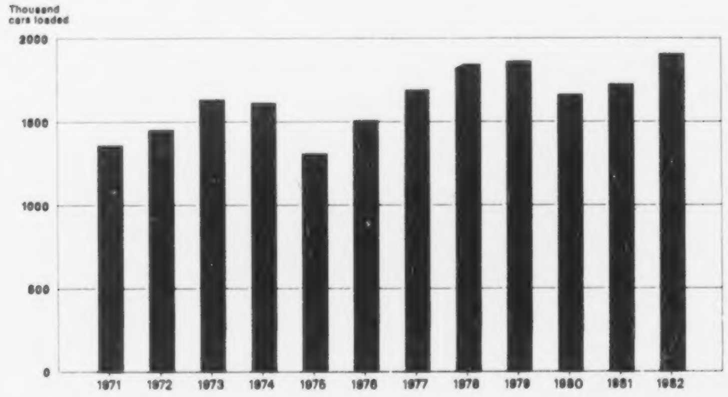
Freight traffic trends

Class I railroads
1971 - 1982



Revenue carloadings of

T-O-F-C traffic
Class I railroads
1971 - 1982



Carloadings by commodities: 1982 vs. 1981

	1982 Cars	1981 Cars		Incr./Decr. 1982 vs. 1981 Cars	Percent
Grain	1,267,056	1,352,406	D	85,350	6.3
Other farm products	216,924	222,383	D	5,459	2.5
Metallic ores	823,647	1,606,558	D	782,911	48.7
Coal	5,659,783	5,762,265	D	102,482	1.8
Crushed stone, gravel and sand	468,068	619,994	D	151,926	24.5
Nonmetallic minerals	503,086	674,793	D	171,707	25.4
Grain mill products	619,969	737,854	D	117,885	16.0
Food and kindred products	681,511	784,569	D	103,058	13.1
Primary forest products	756,743	938,611	D	181,868	19.4
Lumber and wood products except furniture	305,489	395,588	D	90,099	22.8
Pulp, paper and allied products	327,698	991,496	D	163,798	16.5
Chemicals and allied products	1,116,051	1,332,863	D	216,812	16.3
Petroleum products	243,113	268,582	D	25,469	9.5
Stone, clay and glass products	509,287	690,367	D	181,080	26.2
Coke	232,669	330,465	D	97,796	29.6
Metals and products	458,144	785,644	D	327,500	41.7
Motor vehicles and equipment	712,547	809,113	D	96,566	11.9
Waste and scrap materials	404,555	605,727	D	201,172	33.2
Forwarder and shipper association traffic	429,358	493,151	D	63,793	12.9
All other carloads	2,303,744	2,199,036	I	104,708	4.8
LCL traffic	10,757	11,922	D	1,165	9.8
Total Cars Loaded	**18,550,199**	**21,613,387**	**D**	**3,063,188**	**14.2**

statistical review

Freight traffic 1971 - 1982

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)
1971	25,266	1,356	739,743
1972	26,105	1,448	776,746
1973	27,338	1,631	851,809
1974	26,184	1,610	850,961
1975	23,218	1,308	754,252
1976	23,457	1,506	794,059
1977	23,173	1,689	826,292
1978	23,355	1,841	858,105
1979	23,892	1,858	913,669
1980	22,598	1,687	918,621
1981	21,613	1,749	910,169
1982	18,550	1,923	[e]797,800

[e] Estimated

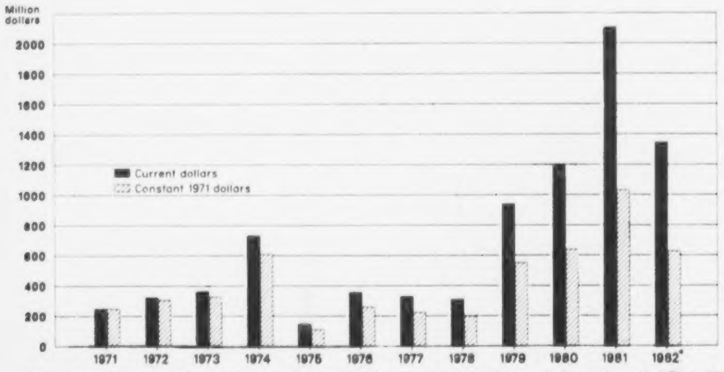
Methods of shipping motor vehicles from factories 1971-1982

Year	Vehicles shipped	Highway %	Railroad %
1971	10,638,000	47.5	52.5
1972	11,270,000	47.8	52.2
1973	12,637,000	48.0	52.0
1974	10,058,000	44.8	55.2
1975	8,985,000	46.4	53.6
1976	11,477,000	48.5	51.5
1977	12,639,000	49.3	50.7
1978	12,871,000	47.9	52.1
1979	11,456,000	50.1	49.9
1980	8,067,000	46.8	53.2
1981	7,956,000	43.6	56.4
1982 (9 mos.)	6,226,000	40.0	60.0

Source: Motor Vehicle Manufacturers Association of the United States, except columns 2 and 3 for 1982 estimated by AAR.

Net income

Class I railroads 1971 - 1982



(Ordinary income before extraordinary and prior period charges and credits) *12 months ended Sept. 30

Condensed income account 1971, 1981, 1982

	1971 (millions)	1981 (millions)	12 mos. to 9/30/82 (millions)
Total operating revenues	$12,689	$30,734	$28,724
Total operating expenses[1]	11,947	28,476	27,286
Income taxes on ordinary income[2]	108	37	112
Provision for deferred taxes	100	923	628
Net railway operating income	595	1,336	753
Net ordinary income	247	2,105	1,346
Net income in constant 1971 dollars	247	1,034	630

Note: Data based on the new Uniform System of Accounts (U.S.O.A.), effective Jan. 1, 1978.

[1] Operating expenses include rents and taxes other than income taxes.

[2] Data for 1981 and 1982 include a small amount of state taxes.

Operating revenues 1971, 1981, 1982

	1971 (millions)	1981 (millions)	12 mos. to 9/30/82 (millions)
Freight	$11,919	$28,767	$26,798
Passenger	294	534	574
All other	475	1,433	1,352
Total	**$12,689**	**$30,734**	**$28,724**

Note: Mail and express included in freight revenue.

Net railway operating income, rate of return on net investment and net income 1971 - 1982

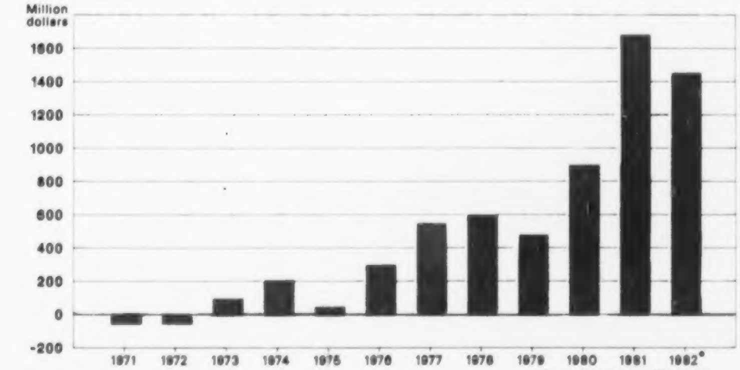
Year	Net railway operating Income *a* (millions)	Rate of return on net investment *a*	Net income after fixed charges *b* (millions)	Net income in constant 1971 dollars (millions)*
1971	$ 595	2.12%	$ 247	$ 247
1972	654	2.34	319	306
1973	650	2.33	359	326
1974	768	2.70	730	609
1975	351	1.20	144	110
1976	452	1.60	355	258
1977	343	1.24	326	223
1978	427	1.52	307	196
1979	837	2.87	938	551
1980	1,312	4.13	1,192	640
1981	1,336	2.98	2,105	1,034
12 mos. to 9/30/82	753	2.16	1,346	630

a After provision for deferred taxes beginning in 1971.
b After provisions for deferred taxes beginning in1971 and including equity in undistributed earnings of affiliated companies beginning in 1974.
* Implicit price deflator for GNP, used to develop constant dollars, was revised in Jan. 1981.

Note: Statistics shown above and elsewhere in the tables are for Class I line-haul railroads, excluding National Railroad Passenger Corp. (Amtrak) and Auto-Train Corp., unless otherwise indicated.

Net working capital

Class I railroads
1971 - 1982



*As of September 30, 1982

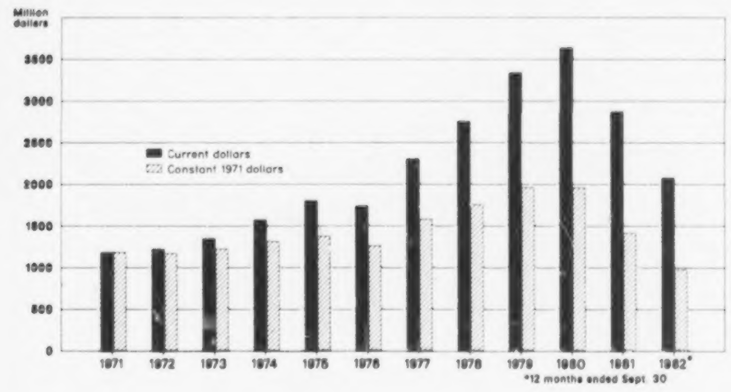
Railway current ratio 1971 - 1982

Dec. 31	Current assets (millions)	Current liabilities[1] (millions)	Current ratio
1971	$3,585.9	$3,647.8	1.0
1972	3,611.6	3,672.3	1.0
1973	4,055.9	3,898.0	1.0
1974	4,553.2	4,333.7	1.1
1975	4,640.8	4,572.9	1.0
1976	5,292.8	4,950.1	1.1
1977	5,985.7	5,414.8	1.1
1978	6,873.5	6,270.8	1.1
1979	7,779.6	7,224.5	1.1
1980	8,676.4	7,779.0	1.1
1981	9,679.8	7,996.7	1.2
9/30/82	9,119.3	7,667.5	1.2

[1] Includes debt due within one year.

Capital expenditures

Class I railroads
1971 - 1882



*12 months ended Sept. 30

Capital expenditures and retained funds 1971 - 1982

	Gross capital expenditures				
Year	Rolling stock (millions)	Other facilities (millions)	Total (millions)	Retained funds[1] (millions)	Excess of capital expenditures over retained funds (millions)
1971	$ 864	$ 314	$1,178	$ 784	$ 394
1972	848	368	1,216	923	293
1973	893	449	1,342	964	378
1974	1,038	527	1,565	1,091	475
1975	1,303	486	1,790	622	1,168
1976	1,175	550	1,725	683	1,042
1977	1,540	751	2,291	763	1,527
1978	1,883	855	2,738	727	2,011
1979	2,285	1,039	3,323	1,390	1,933
1980	2,346	1,275	3,621	1,839	1,782
1981	1,521	1,334	2,855	3,130	(276)[2]
12 mos. to 9/30/82	824	1,235	2,059	2,133	(74)

[1] Retained funds represent income before extraordinary items, plus deferred taxes and depreciation and retirement charges, less cash dividends and equity in undistributed earnings of affiliated companies.

[2] The reversal of a long-term trend was due to increases in ordinary income and deferred taxes in 1981 and a decline in capital outlays resulting from equipment surpluses.

Note: Capital expenditures of Class I railroads do not include expenditures for railroad equipment made by private car companies and lessors.

New and rebuilt equipment installed 1971 - 1982

Year	Freight cars	Passenger-train cars	Diesel-electric units
1971	60,633	281	1,276
1972	49,983	347	1,577
1973	59,170	92	1,384
1974	67,409	100	1,395
1975	73,992	272	840
1976	53,630	358	567
1977	53,817	158	992
1978	68,774	44	1,378
1979	96,532	116	1,978
1980	86,628	160	1,666
1981	45,925	119	793
1982 est.	19,500	n.a.	450

n.a. Not available

Note: Freight-car installations include cars of all railroads and private car lines. Passenger-train car and diesel-electric unit installations include Amtrak beginning with the year 1972 and Auto-Train for the years 1972-1977.

Railroad cost of capital

	1979 XP-393	1980 XP-416	1981 XP-415	1982 XP-436*
1. Current Cost of Debt	9.0	10.0	13.72	14.2
2. Current Cost of Equity	13.5	13.5	18.33	20.6
3. Debt/Equity Ratio	40:60	40:60	40:60	37:63
4. Weighted Average Cost of Capital to be compared to the rate of return on Net Investment	11.70	12.10	16.49	18.2
5. Rate of Return Achieved by Class I Railroads	1.63	2.93	3.09	N/A

*AAR Filing 11/1/82

Source: ICC Decisions

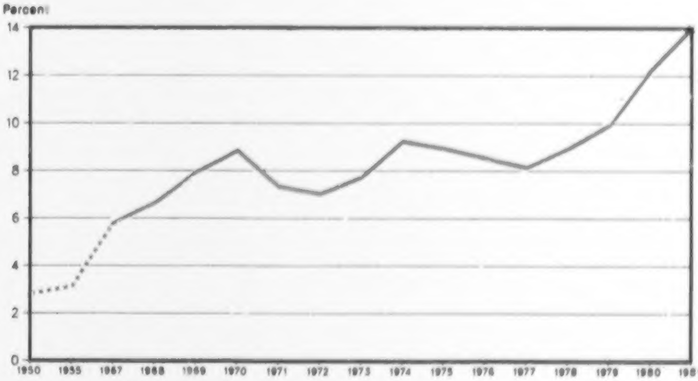
Prices and revenue averages — 1971 - 1982

Year	Producer price index for railroad equipment[1] (1971 = 100)	Price index for total railroad freight[1] (1971 = 100)	Railroad revenue per ton-mile (cents)	Railroad revenue per ton-mile (1971 = 100)
1971	100.0	100.0	1.593	100.0
1972	106.5	103.0	1.618	101.6
1973	111.4	105.6	1.617	101.5
1974	135.5	122.3	1.853	116.3
1975	166.4	138.4	2.041	128.1
1976	179.2	152.5	2.191	137.5
1977	193.1	162.7	2.286	143.5
1978	209.0	174.1	2.358	148.0
1979	229.4	198.8	2.599	163.2
1980	259.0	232.4	2.852	179.0
1981	277.9	267.6	3.155	198.1
1982 est.	289.0	287.0	3.230	202.8

[1] Bureau of Labor Statistics, USDL.

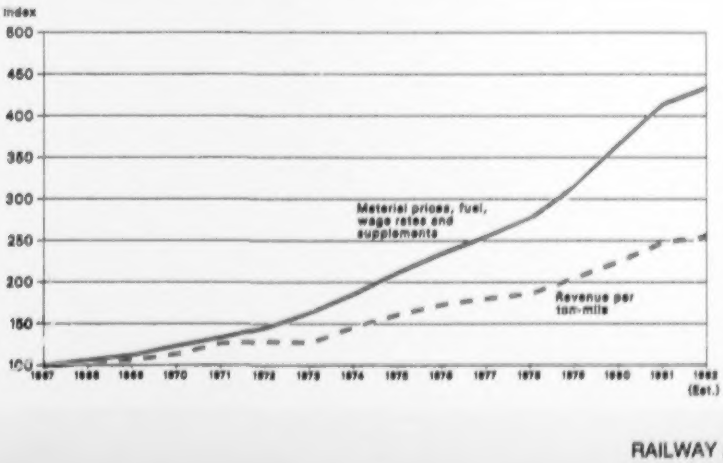
Average interest rates

on equipment obligations issued Class I railroads 1950, 1955, 1967-1981



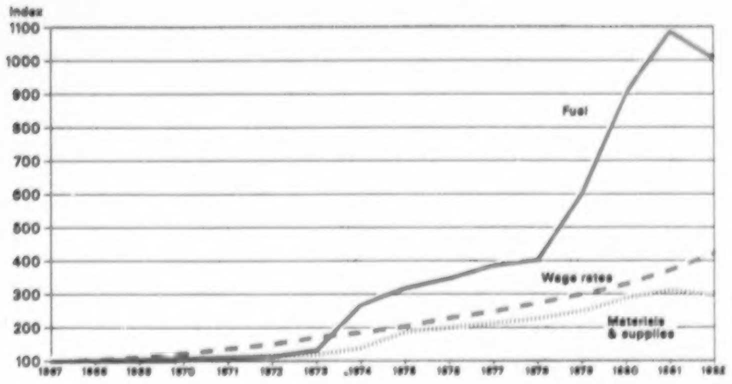
Revenue and cost trends

Class I railroads 1967 - 1982 (1967 = 100)



Railroad cost trends

Class I railroads
1967 - 1982
(1967 = 100)



Trends in railroad fuel prices[a] (cents per gallon)

Year	U.S.	East	South	West
1971	10.29	10.70	10.98	9.92
1972	10.52	10.92	11.27	10.14
1973	12.26	12.74	12.94	11.84
1974	24.43	25.19	25.06	24.01
1975	28.91	30.05	29.75	28.09
1976	31.44	32.55	32.31	30.67
1977	34.99	36.81	36.18	33.77
1978	36.54	38.48	37.50	35.36
1979	54.47	55.06	52.33	54.91
1980	81.64	82.28	79.33	82.07
1981	98.57	101.41	99.41	96.99
1982	93.96	95.49	94.30	93.24

[a] Yearly averages based on AAR Fuel Index.

Spot price indices of fuel and materials and supplies (1977 = 100)

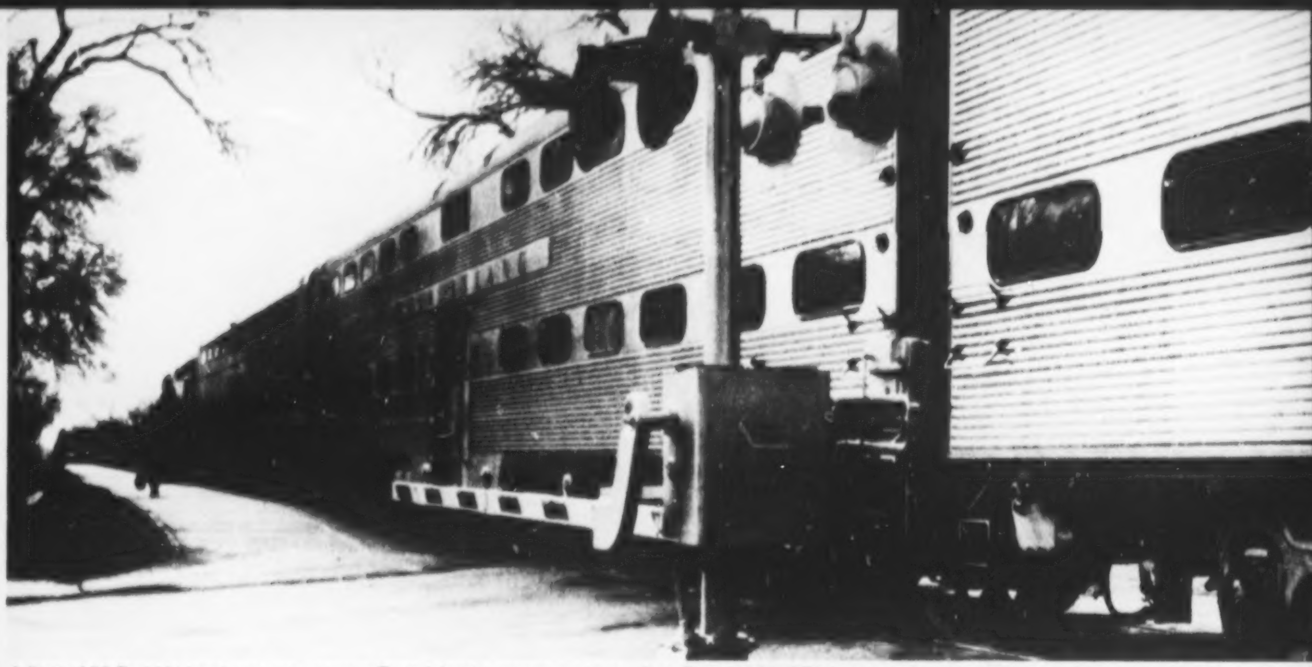
		Materials and supplies			Total materials and supplies	
Date	Diesel fuel	Forest products	Iron & steel	Misc.	Excluding fuel	Including fuel
8/15/81	288.2	156.4	148.1	145.6	148.0	200.2
11/15/81	287.7	155.3	147.3	148.4	148.6	200.2
2/15/82	283.0	155.5	143.1	146.9	146.1	197.0
5/15/82	258.0	153.1	141.1	147.3	145.0	187.1
8/15/82	268.9	152.0	140.7	147.5	144.7	191.1
11/15/82	283.0	149.2	135.1	146.8	141.4	193.9

Railroad cost recovery index 1967 - 1982

(1977 = 100)

Year	Labor (Wages & Supplements)	Fuel	Materials & Supplies	Labor, Fuel & M/S Combined	Other Costs	Railroad Cost Recovery Index
1967	39.7	25.7	46.0	39.2	n.a.	n.a.
1968	42.2	26.6	47.2	41.4	n.a.	n.a.
1969	45.2	27.4	48.6	44.0	n.a.	n.a.
1970	49.9	28.4	50.4	48.2	n.a.	
1971	55.4	29.4	52.3	52.3	n.a.	n.a.
1972	61.0	30.1	54.7	57.0	n.a.	n.a.
1973	69.1	35.0	56.6	64.0	n.a.	n.a.
1974	75.2	69.8	65.4	73.1	n.a.	n.a.
1975	82.3	82.6	87.6	83.2	n.a.	n.a.
1976	92.2	89.9	93.6	92.2	n.a.	n.a.
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.8	104.4	106.2	108.6	108.8	108.5
1979	120.8	155.5	116.4	123.5	119.0	122.1
1980	132.5	233.1	134.2	143.3	132.6	140.1
1981	149.4	280.2	145.2	162.2	147.2	157.7
1982	**167.5***	**259.5**	**138.2**	**170.2***	**n.a.**	**n.a.**

n.a.—Not Available
*—estimated



A fleet of 89 Budd bi-level cars now carries Rock Island passengers in comfort. Since 1976, RTA has invested $100 million in RI improvements.

Chicago: A comeback story?

Rising fares drove thousands of riders from Chicago's commuter roads. But improved equipment and service could bring many of them back as a new operating authority takes over.

By BILL FAHRENWALD,
Associate Editor

Chicago area residents have watched a startling transformation of their commuter rail system during the last few years. There have been some distressing—indeed harrowing—chapters in the story as fares have rocketed and service has been drastically cut. Ridership has plummeted by as much as 22% throughout the Regional Transportation Authority's commuter rail network as rising fares, reduced service, stabilized gasoline prices, and the economic recession have eaten into ridership on RTA's seven operating railroads.

In light of these recent events it seems odd to conclude that RTA's nearly five million monthly rail commuters face a brightening future. But they do.

- **A "lean and mean" system.** In fact, Chicago still has one of the best commuter railroad systems in the U.S. and there are well founded plans to maintain the current high standards of service.

The reason: RTA and regional leaders are determined to take a "lean and mean" system that has emerged and run it right. One of the most dramatic turnarounds has occurred in Chicago's south side and suburbs where former Rock Island lines carry nearly 11,000 daily one-way riders (fifth in size among the seven operations).

Until a few years ago riders endured long trips in 50-year-old equipment that lumbered between the Loop and Joliet over deteriorating tracks. Now much of the railroad is in model condition and a fleet of 89 bi-level cars carries passengers in comfort.

The service is acting as another kind of model, too. It is the first to be completely operated and controlled by RTA's operating arm, the Northeast Illinois Commuter Rail Corporation (NIRC).

RTA Chairman Lewis W. Hill looks forward to the day NIRC will be employing crews, running trains and maintaining (and owning) much of the 1,200-track-mile network that now serves Chicago. Already it is in control of most operations on two commuter roads.

The one important holdout will apparently be Burlington Northern. It runs what Hill acknowledges is excellent commuter service and the railroad is anxious to retain control over the vital Chicago-Aurora artery. That line serves both commuter trains and freights to and from the rest of the BN system.

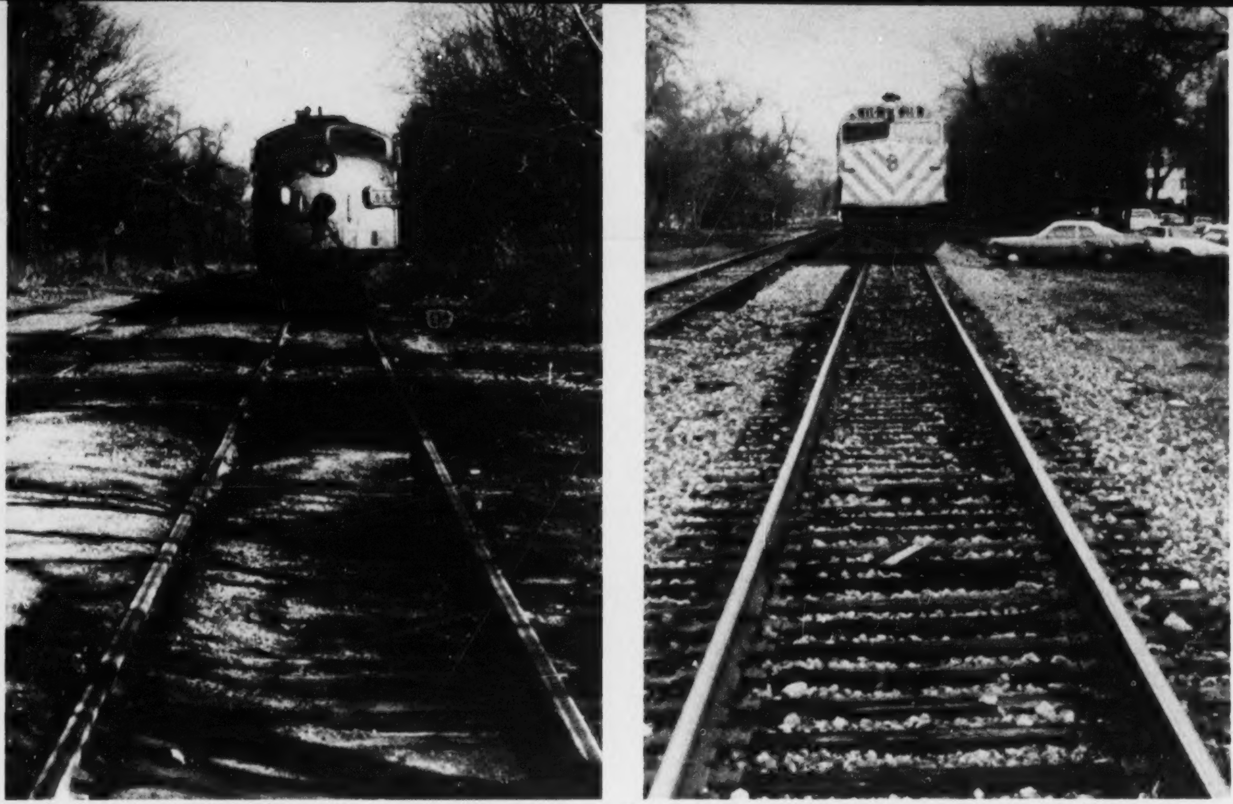
Hill anticipates that NIRC will negotiate with other railroads to transfer most operations to NIRC. How the agency will handle those various operations can be gleaned, in part, from NIRC's RI experience.

- **Developing organizational know-how.** RTA was formed eight years ago with the mission of assuming commuter properties and operations. But the agency's staff was small and there was little that could be done beyond funding and supervising existing railroad operations. Hill says, "The early emphasis was clearly on maintaining an arms-length relationship with respect to day-to-day operations. However, from the very beginning the need for direct involvement in operation was recognized and the RTA set about developing organizational capability."

The need for direct control of costs, schedules, and workers was the motivating factor in building the organization. RTA was essentially ready when fate took a hand.

When RI filed for reorganization in 1975, it started a chain of events that eventually required an outside body to take over its commuter trains.

A directed-service order was issued to RTA in 1980; the agency, still unprepared to assume complete control, hired the Chicago



At left, photo taken in 1974 shows a train on the 6.6-mile Beverly Branch of the Rock Island. At right, the same spot in late 1982. The branch, now owned by RTA, was restored with continuous welded rail, 1,300 carloads of ballast and 108,000 ties.

& North Western to manage the service. Then, in 1981, the RTA went through a cathartic experience that was hellish at the time but which finally pushed NIRC (an RTA subsidiary) into full-scale railroad operations.

In June of that year, RTA ran dangerously short of operating money. For a while, railroads ran commuter trains from their own cash reserves. C&NW, by far the largest operator of RTA trains, decided it could not continue to shoulder the added burden of providing RI service. On June 1, 1981, NIRC took over direct operations. And just this past Dec. 10 it completed the purchase of the property from the RI trustee for $35 million.

Simultaneously, Milwaukee's bankruptcy proceedings forced NIRC to assume partial control of that railroad's two commuter lines. Due to the complications created by Milwaukee's freight traffic over the lines, NIRC has only taken employees and equipment associated with commuter operations. But there are plans to purchase the fixed plant, eventually.

• **"We did it."** "They said it couldn't be done, but we did it," says a NIRC official of the RI operation. Pride is taken in the fact that NIRC's team of experienced railroaders has successfully managed the transfer of RI trains and track to NIRC. Moreover, says James Cole, NIRC vice president, the agency has already achieved some new efficiencies.

"The assignment I gave Jim Cole was to run the Rock better and run it cheaper," says Hill. There is evidence that Cole has succeeded.

NIRC calculates that it saved $2.2 million, or 20% of operating costs, in FY 82 through various moves. And the service, though reduced, is undeniably good. On-time performance of the 274 trains each week is 99.4% and some 15 minutes have been shaved off many schedules.

An important reason for the improved schedules is the more than $100 million in capital improvements that RTA has made in the RI service since 1976. In addition, RTA has channeled $71.4 million in operating subsidies to the line.

NIRC cites several improvements that have led to reduced subsidies:

—Stringent fuel conservation measures that saved $339,000 in FY 82.

—In-house wheel truing that has saved $18,000 over a six-month period.

—Faster schedules that lowered labor costs by $70,000.

—Improved ticketing control and auditing procedures that have produced a more uniform system of revenue accounting.

Other improvements include better monitoring of ridership, new safety programs, and a decreased reliance on outside contractors for capital improvements.

On the Milwaukee, NIRC forces are performing wheel-truing work for other railroads. Servicing of Norfolk & Western and Illinois Central Gulf diesel-powered commuter trains has been consolidated at Milwaukee's yard.

• **Tighter operating contracts.** RTA is also moving to improve agreements with its contracting railroads. Original purchase-of-service agreements (PSAs) called for fixed payments by RTA to the roads, with various built-in escalation factors. New PSAs call for payments linked directly to costs. Specifically, each railroad will prepare detailed budgets based on RTA service requests. According to Cole, "They have to present a line item budget, which we examine and we take out or add items as we think appropriate. That's where our direct operating experience on the RI and Milwaukee is proving valuable because it gives us a yardstick to measure against."

C&NW was the first to enter into such an agreement with RTA; ICG recently signed on. Negotiations may soon be completed with BN. Talks are also under way with South Shore and the Northern Indiana Transportation District to alter RTA's support of that service.

According to Hill, the PSAs give RTA "a better supervisory role on quality and quantity of service in maintenance and operations."

Noting the willingness of the railroads to negotiate the improved PSAs, Cole says that RTA and NIRC have good relations with their carriers.

• **Balancing freight and commuter needs.** That view is supported by BN's D.J. Mitchell, director, suburban services. He came to BN after 11 years with the Urban Mass Transportation Administration, and he is clearly interested in carefully balancing BN's needs with those of commuters the railroad serves in the western suburbs.

Relations with RTA are good enough, Mitchell thinks, to render moot the issue of whether or not the railroad should sell its commuter operations to RTA. BN is, in fact, not at all interested in giving up its control over the Chicago-Aurora line, he says.

RTA's capital-improvement program calls for expenditures of $100 million a year through '87. That figure could be doubled as a result of funds accruing from the new gas tax.

Mitchell diplomatically refuses to speculate about whether BN or NIRC is better able to manage the service. "But on a day-to-day basis," he says, "we feel comfortable enough with NIRC to work things out. The lines of communication are so open that in practical terms the question [of the need for transferring service] never comes up."

Hill, also a diplomat, stresses that RTA has no intention of trying to force any arrangements on BN that it does not want. Still, he hopes that if future NIRC operations are as successful as he believes they will be, BN might someday see an advantage in unburdening itself of the commuter operations.

Elsewhere, preliminary negotiations are under way with Milwaukee to determine which parts of its system it would like to sell to NIRC. According to Hill, C&NW and ICG negotiations will be conducted simultaneously, starting perhaps this year.

The final outcome of those negotiations is, of course, far from certain. RTA's five year plan calls for $63 million to be spent on acquisitions. But Hill calls that figure "very soft."

As control of various commuter lines passes to NIRC, RTA will continue to make some important capital improvements to commuter service. But rapid growth of service is not foreseen. Instead, RTA's plans are to nurture and strengthen the system at hand. As ridership grows at an anticipated annual rate of 3.5%, cars will be added to trains, and a few new trains will be added.

- **Improvement plans.** Through FY 87, capital spending on commuter railroads is currently slated to proceed at a pace of about $100 million per year. In FY 83 "Phase I" (currently funded commuter rail projects) will receive 34% of all RTA capital funding. And with the addition of federal gas tax revenues, Hill expects to be able to fund even more improvements.

Preliminary estimates are that RTA will receive a total of $100 million annually in additional capital funding from the gas tax. Federal operating subsidies will decline by an undetermined though much smaller amount.

Among the major projects will be reconstruction of a number of important yards that were built to handle needs that no longer exist. Through FY 87, track and structures will receive the largest share of capital spending ($158 million), followed by rolling stock ($115 million), support facilities and equipment ($63.3 million), acquisitions ($63 million), stations ($38 million) and signaling and communications ($22.4 million).

At the same time, RTA's need for operating subsidies is expected to continue a relentless climb as federal subsidies decline. RTA's farebox recovery of costs, 57%, is among the highest in the U.S. FY 82 projections for the commuter rail system anticipate a recovery ratio of 63%. BN's Mitchell forecasts farebox recovery to approach 90% on his railroad this year.

But increasing costs will erode farebox contributions if certain actions are not taken.

Labor is the major cost component for RTA, and the recent railroad industry agreements could boost wages by over 28% during a 39 month period (though if inflation stays at present levels, the rise will not be that large). Nevertheless, RTA's commuter labor payments are locked into a steep climb. The significance of that cost increase is apparent on BN, for example, where labor accounted for $11.3 million of $23.5 million in total commuter operating expenses for the 10 months ended Oct. 31, 1982.

- **The Amtrak pattern?** The one bright spot in this picture is the fact that NIRC is now negotiating with its new employees on RI and Milwaukee. Hill is reluctant to reveal the status of those talks, but he notes that NIRC is looking with interest at the new Amtrak operating crew agreements for the Northeast Corridor. That agreement phases out the dual basis of pay as well as the so-called arbitraries.

In January, NIRC had completed its initial round of meetings with union representatives and was considering the unions' counterproposals. There are 14 unions involved, with which RTA "expects to renegotiate all conditions of the labor contracts, including wages, rules, and working conditions," says Hill.

RTA is not allowed to structure annual budgets that call for expenditures in excess of farebox and subsidy projections. For FY 83, Hill and his staff have had to trim $64 million to balance the budget.

Under their plan, RTA will look for ways to reduce carrier and support costs by 2%. "It is not expected that services will be curtailed but that reductions in service quality may result," says RTA. Additionally, nearly $7 million in railroad preventative maintenance will be deferred with one proviso: "This program should be initiated as soon as funds are available, perhaps with additional federal funds as a result of the [gas tax] increase." Additional extra revenues are to come from hoped for new federal grants for railroad operations of $25 million, a carryover of FY 82 funds, slightly higher local sales tax revenues, investment income, and—most sensitive—a July 1 fare increase.

RTA Commuter Rail Capital Program, 1983-87

Rolling Stock	$115,350,000
Track & Structures	157,866,450
Signaling/Electrical/ Communications	22,413,500
Support Facilities/ Equipment	63,257,840
Stations	38,398,000
Acquisitions	63,000,000
Contingency Fund/ Administration	50,714,210
Total	**$511,000,000**

CTA fares would rise from 90 cents to one dollar, and other RTA services would increase fares about 10%. After 1981's hefty commuter rail fare hikes, Hill is acutely aware that such increases can be counterproductive. Noting that across-the-board fare hikes have had unequal affects on ridership, RTA has decided to treat its services separately. A 10-15% reduction in Milwaukee commuter fares in October, for instance, brought some riders back. And an experiment is under way on ICG inner city electric trains. Fares have been lowered in an attempt to draw transit users away from overcrowded CTA buses. This type of coordination has been possible only since RTA was formed, says Hill.

Between now and FY 87, though, big budget problems loom. If no corrective actions are taken, RTA could mount up a shortfall (after all forms of revenues are counted) of about $750 million during that period. Since the agency cannot budget a deficit, it has identified a number of cost-reducing and revenue-increasing measures. Several, taken in combination, would entirely wipe out the deficit. These measures are:

—Additional annual public funding to include $25 million in federal and $50 million in state aid.

—Annual fare increases of 10 cents on CTA and 10% on other services.

—Reduced growth in expenditures through productivity gains.

Another possible source of revenue is a controversial proposal to tax professional services. The tax was imposed by Mayor Jane Byrne to raise money for the CTA, but was killed on grounds that the city's action violated the state constitution. Hill says that the state might be able to levy the tax, and that there is interest in an attempt to do so.

In any event, Hill does not expect a repeat of last year's near-shutdown of commuter services. "I don't think there will be a financial crisis like that," he says. "The legislature and RTA board will no longer put off the tough decisions." ■

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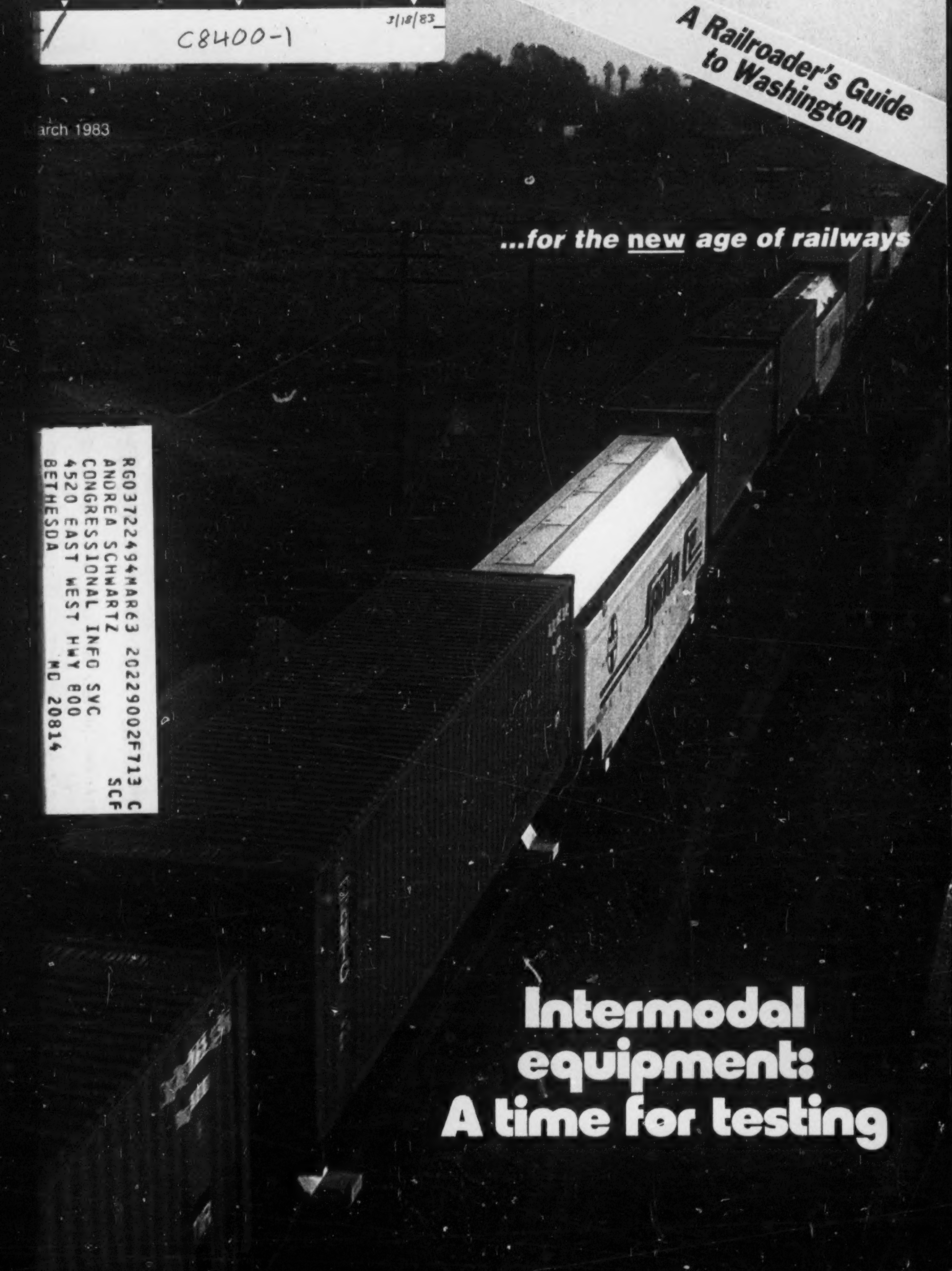

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Intermodal equipment: A time for testing

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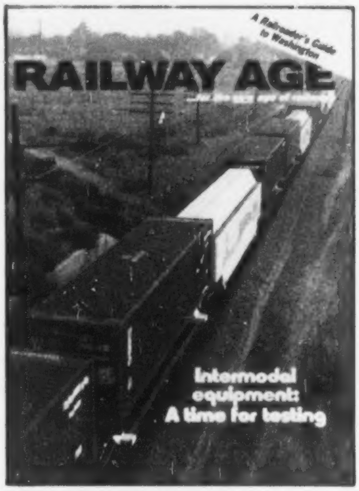
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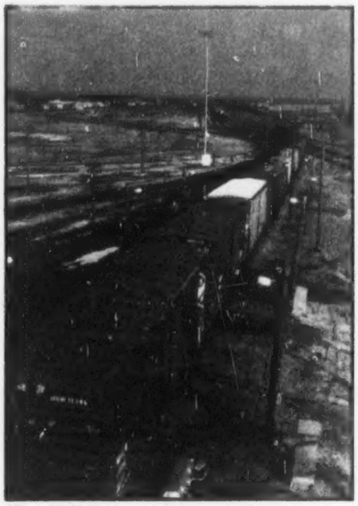
RAILWAY AGE

Intermodal equipment: A time for testing

Cover: Santa Fe fiberglass container under road test, photographed by System Photographer Don Erb, Los Angeles. *Page 28.*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Features

28 Intermodal equipment: A time for testing

What will tomorrow's TOFC/COFC car look like? Nobody knows at this point—but there's no shortage of prototypes on (and off) the builders' drawing boards.

34 Alaska's solar solution

The Alaska Railroad wanted to substitute microwave for its costly-to-maintain pole line system. Solar-powered repeater stations were the key.

38 Conrail: A class act

Selective investment in class-yard modernization has helped put Conrail on a profitable track. Elkhart is a classy example of the Conrail strategy.

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68 Track productivity showcase

Railway Age asked track suppliers: "How can you help railroads stretch their m/w dollars?" The response was overwhelming.

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Inside

Figuring recession's impact

LUTHER S. MILLER

The general press measures the severity of recession by the national unemployment rate, which is appalling enough: at last report it was 10.4%, down only slightly from an earlier high of 10.8%. Railroads and railroad suppliers have their own measurements, and they are even more appalling. Here are a few: On Feb. 11, Class I railroads had 247,726 freight cars in storage, more than one-fifth of the fleet. About 7,000 locomotives, or one-fourth of the power fleet, were idle on Jan. 1 (the AAR's latest estimate). In mid-January, Class I railroad employment was 323,259, a drop of 18.92% from the year-earlier figure (which itself was down 9% from 1981). As for suppliers, the Railway Progress Institute surveyed its 138 member companies late in 1982 and found that they had an unemployment rate of 68%. RPI President Robert Matthews thinks that figure might be even higher now.

There have been a few encouraging signs recently. Those 247,726 idle cars that the AAR counted on Feb. 11 added up to a piece of bad news—but not as bad as the 269,271 cars that were idle in the AAR's week-earlier count.

Economic forecasters were saying in mid-February that all signs pointed to a recovery. How strong will the railroad recovery be—and how long will it take? Data Resources, Inc. prepared a forecast for *Railway Age;* it appears on p. 12.

Data Resources says the railroad recovery will lag the national recovery—partly because the recovery will be led by the high-tech industries, which produce comparatively few carloads of freight.

But any recovery will be welcomed by those 75,000 railroaders—and the many thousands of supply-company workers—who are waiting for a call back to work.

The grain-car problem: No solution yet

First Santa Fe fired and fell back, and now Burlington Northern has had the same experience, in trying to rationalize railroad and private ownership of covered hopper cars for grain. BN's approach was to form a common pool of cars, with private cars coming into the pool through an auction process (*RA*, Feb., p. 47). But, says BN Chairman Walter Drexel, "after frank and candid discussions...we have concluded that the proposal is seriously flawed." Discussions with shippers, says Drexel, "have given us several new ideas that we'll be pursuing in the near future."

Market Outlook

Facilities

Calgary: An order has been placed with Genstar Costain Tie Co. for 21,700 prestressed concrete ties for the Northeast segment of the Calgary Light Rapid Transit System. In 1979-80, Genstar Costain supplied 27,000 ties for the initial, South segment of the system.

International Engineering Co.: Received two contracts—one in joint venture with two associates—from Westinghouse Electric to provide design and engineering services as well as equipment for the overhead contact system on an expansion of the Seoul (Korea) Metro. A contract awarded solely to IECO covers engineering services associated with traction power supply. Under the second contract, IECO along with Aluminum Company of America and Ohio Brass will perform design and engineering of 93 miles of 1,500-volt, dc overhead contact system, including 62 miles of rigid bar trolley-type for subsurface track and 31 miles of conventional catenary for surface track. IECO is a subsidiary of Morrison-Knudsen.

Norfolk Southern: 1983 capital budget of $180.1 million includes $146.9 million for roadway improvements. About 400 miles of cwr will be included in rail work totaling $55 million (of which $20.7 million is charged to capital). A track-change budget of $15.3 million has $2.4 million earmarked for completion of a connection between Southern and Norfolk & Western at Hurt, Va. Other planned 1983 expenditures include $22.2 million for bridge, culvert and tunnel projects; $12.4 million for signaling and electrical projects; $8.7 million for m/w machinery; $6.4 million to purchase office equipment and upgrade the computer system; $6.9 million for microwave improvements; $6.3 million for environmental projects; $5.2 million for freight-car improvements; $1.3 million for locomotive modifications.

Seaboard System: Will build a $10.9-million intermodal facility on a 65-acre tract adjacent to the Belt Railway of Chicago's Clearing Yard.

Freight cars and locomotives

DELIVERED

	December		November	Twelve months	
	1982	1981	1982	1982	1981
Built new by carbuilders	477	2,455	525	15,515	41,435
Build new in RR shops	288	256	85	1,721	3,466
Built new—total	765	2,711	610	17,236	44,901
Rebuilt	174	47	140	1.500	1,100
TOTAL DELIVERED	**939**	**2,758**	**750**	**18,736**	**46,001**
Locomotives (new and rebuilt)	93	101	39	520	756

ORDERED

	December		November	Twelve months	
	1982	1981	1982	1982	1981
To be built new by carbuilders	231	1,811	249	6,321	17,288
To be built new in RR shops	0	0	0	750	628
To be built new—total	231	1,811	249	7,071	17,916
To be rebuilt	0	900	0	600	2,000
TOTAL ORDERED	**231**	**2,711**	**249**	**7,671**	**19,916**

ON ORDER AND UNDELIVERED

	January 1		December 1	Average Backlog	
	1983	1982	1982	1982	1981
To be built new by carbuilders	4,095	14,819	4,378	7,852	27,866
To be built new in RR shops	200	1,666	488	772	2,701
To be built new—total	4,295	16,485	4,866	8,624	30,567
To be rebuilt	0	900	174	314	322
TOTAL ON ORDER	**4,295***	**17,385**	**5,040**	**8,938**	**30,889**
Locomotives (new and rebuilt)	27	214	69	137	300

*Due to revisions and cancellations of some orders, the Jan. 1, 1983 backlog has been reduced by 37 cars.

Estimated ownership—all revenue freight cars

January 1, 1983 vs. January 1, 1982

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRs	1983	278,024	166,150	134,763	293,306	86,011	57,466	23,296	1,039,016
	1982	314,246	173,628	142,301	305,211	91,147	58,762	25,820	1,111,115
Class II	1983	49,613	9,336	10,349	11,238	4,667	3,407	2,842	91,452
& S&T Cos.*	1982	55,192	9,356	11,352	13,378	4,835	3,633	3,345	101,091
Railbox-	1983	24,924		3,998					28,922
Railgon	1982	25,019		4,000					29,019
RRO&C**	1983						4,313		4,313
Refgs.	1982						3,194		3,194
Private	1983	408	130,736	27,821	21,098	53,830	2,857	187,084	423,834
	1982	718	128,394	26,039	20,846	52,742	7,863	191,544	428,146
GRAND	1983	352,969	306,222	176,931	325,642	144,508	68,043	213,222	1,587,537
TOTAL	1982	395,175	311,378	183,692	339,435	148,724	73,452	220,709	1,672,565

*Class II railroads and switching terminal companies.
**Railroad owned and controlled refrigerator car lines.
Source: Transportation Division, AAR.

Market Indicators

DRI Railroad Industry Monitor

How is 1983 shaping up for the nation's railroads? Leading economic indicators point to a moderate recovery. Data Resources forecasts that railroads will participate in the recovery, but as in other upturns growth in rail traffic will lag behind other sectors of the economy.

A major increase in coal traffic by the second quarter and steady improvement in chemicals carloadings highlight the rail traffic picture.

The uncertain future of the U.S. steel industry is the major risk to the forecast. A weak recovery or labor unrest in that industry could cut sharply into the projected gains in traffic. A strong recovery in steel production will produce substantial increases in ore, coal, scrap, limestone, and metals traffic.

	(Annualized rates, by quarter)					
	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Economic Indicators						
Real GNP (% change)	−5.1	2.1	0.7	−2.5	2.8	2.7
Industrial Production (1967 = 1.0)	1.42	1.39	1.38	1.35	1.36	1.39
Housing Starts (mil. units)	0.92	0.95	1.12	1.25	1.35	1.43
Retail Car Sales (mil. units)	8.0	7.5	7.7	6.7	8.4	8.4
Total Class I Rail Traffic (millions of tons)	329.6	334.2	302.7	292.1	287.1	324.1
Key Commodities						
Grain	32.4	30.1	30.7	29.5	28.9	28.9
Coal	134.3	145.1	126.5	121.5	114.0	131.2
Pulp & Paper	9.4	9.0	8.5	8.4	8.5	8.9
Chemicals	24.1	23.0	21.3	21.0	22.9	23.0
Motor Vehicles	3.9	4.9	3.9	3.6	3.8	4.5

Data Resources, Inc., Feb. 16, 1983

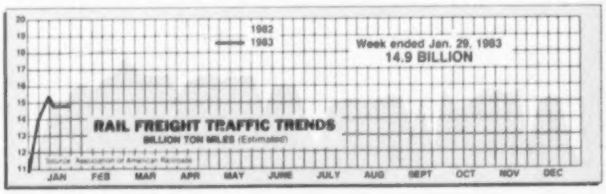
Revenue freight carloadings

Commodity	Jan. 29 week	% change from 1982	Jan. 22 week	% change from 1982	Jan. 15 week	% change from 1982	Jan. 8 week	% change from 1982
Grain	24,363	(4.8)	27,307	5.6	28,255	24.8	26,607	21.4
Other farm products	4,954	16.3	4,833	6.0	4,386	(6.2)	4,177	(1.6)
Metallic ores	10,660	(33.3)	10,594	(43.7)	11,067	(36.9)	10,455	(48.8)
Coal	95,706	(12.3)	96,317	(7.6)	102,364	15.9	93,891	(18.2)
Crushed stone, gravel & sand	6,865	(18.6)	6,613	(15.1)	7,371	16.3	6,560	(22.0)
Nonmetallic minerals	10,746	12.6	10,208	0.0	9,650	(1.4)	8,898	(22.1)
Grain mill products	12,407	(14.4)	12,327	(11.7)	12,429	(7.4)	11,876	(8.0)
Food & kindred products	12,461	(15.5)	12,496	(17.2)	12,162	(11.5)	12,130	(13.5)
Primary forest products	14,449	(19.6)	13,469	(22.4)	15,160	38.8	13,428	(19.3)
Lumber & wood products (except furniture)	7,347	20.6	7.004	25.3	6,574	41.3	5,454	17.5
Pulp, paper & allied products	15,225	(16.5)	15,066	(11.9)	14,893	(7.1)	14,466	(10.9)
Chemicals & allied products	22,449	(4.5)	22,144	(1.5)	23,299	10.9	21,076	(10.2)
Petroleum products	4,748	(12.3)	4,932	(13.7)	4,814	(11.1)	4,761	(9.3)
Stone, clay & glass products	8,603	(13.7)	8,495	(12.8)	8,761	2.9	8,488	(13.4)
Coke	4,050	(10.9)	4,284	(2.0)	3,884	(16.8)	4,201	(20.5)
Metals & products	7,481	(38.3)	6,758	(41.0)	6,916	(33.5)	6,463	(44.4)
Motor vehicles & equipment	15,536	28.6	13,978	11.6	13,258	18.2	11,059	28.8
Waste & scrap materials	6,817	(28.6)	7,122	(25.6)	7,092	(16.7)	6,034	(28.5)
Forwarder & shipper assn. traffic	8.733	(4.6)	7,196	(17.4)	7,149	(7.8)	5,961	(17.1)
All other carloads	47,120	8.9	42,970	8.0	46,232	30.5	39,158	7.0
LCL traffic	220	(88.6)	982	(37.8)	1,032	(17.6)	973	(23.8)
Total Cars Loaded	**340,941**	**(9.3)**	**335,095**	**(8.6)**	**346,748**	**7.6**	**316,116**	**(12.9)**

Estimated revenue ton-miles (billions)	1983	1982	% change from 1982
4 weeks, cumulative	59.1	60.2	(1.8)

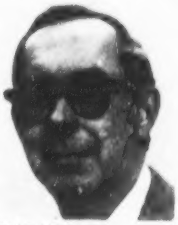
Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers loaded 1983	% increase from 1982
Jan. 1	27,364	14.3	48,263	14.1
Jan. 8	32,733	5.8	58,937	5.4
Jan. 15	39,735	33.2	66,464	23.7
Jan. 22	38,766	13.9	64,868	5.6
Cumulative total, 3 weeks, 1983	110,976	17.0	189,545	10.7



Lines on Labor

The message just isn't getting across


GUS WELTY

Occasionally, the morning mail brings a letter that deserves to be shared—such as the letter that arrived a few days ago from a young locomotive engineer who signed on with a railroad six years ago, after college and after working in supervisory positions in another industry. Six years as trainman, fireman and engineer, he says, have provided "an education that no institution of higher learning could match. I can now fully understand why management and labor have, and may always have, such a gulf between them."

A comment such as that does tend to get your attention. So does this observation: "The battle is won or lost every day of the year in yards and terminals, not in board rooms or union headquarters. To the average operating employee, his trainmaster or his road foreman *is* the railroad. And the best intentions of people in top management are worthless if they are not transmitted to the people who must ultimately carry them out."

Too often, this young engineer declares, the local railroad officer comes across as "a frustrated policeman, arrogant, jealous of the wages of those he considers himself far superior to, a fellow who seems intent on gathering evidence that will allow him to hand out copious amounts of discipline." On the other side is the local union official, who tries, not always successfully, to protect the employee from the "evil local officer." As our corresponding engineer sees it, the employee's "loyalty to his union is understandable. It's passed down from one generation of railroader to the next—this hereditary pessimism and mistrust." His question: "If railroading is truly entering a new age, why hold onto the antiquated school of 'crack-the-whip' supervision?"

What comes through in this letter is a plea, from a man who genuinely likes his job. What he's pleading for, down there at bedrock, is communication: "Tell the employee the carrier's goals, and let him know what his part in those plans is to be. Put people into first-line supervision who understand and can communicate, and use them as the channels to convey information, and to create and hold the respect and trust of the employee."

Our engineer has examples, not necessarily affecting his own job. One has to do with the elimination of cabooses: Conductors and brakemen, he says, see this as just another takeaway, with the union representative coming across as the good guy and with management failing to explain its position. Another has to do with interdivisional runs: "On the local level, this is viewed as just another attempt to dry up jobs and cause hardship to those who may have to move. Good p.r. would have the company explaining the benefits and savings to the affected employees, possibly citing what such changes have meant in terms of creating more jobs on other railroads."

Only management can fill the gap

Railroads, as it happens, spend a fair number of dollars on "communicating." Railroads, for the most part, do an excellent job of handling the knowledge-needs of the press, communities, shareholders, government types. But railroads, too often, still do not do an adequate job of communicating internally.

So, what might be done? For openers, top management might review its communications links with middle management and first-line supervision, because in too many cases it would appear that messages are being lost in the translation, and what comes out at the lower levels is not exactly what went into the pipe at the top. Too, top management might just as well recognize that if it allows a communications vacuum to develop, that vacuum is going to be quickly filled with what spews forth from the rumor mill.

What it comes down to, perhaps, is simply that the internal communications practices in existence don't seem to be working as they should be. And nobody can change this except top management.

Class 1 railroad employment

Employee Group	No. of employees, mid-month count January 1983	Percent of change January 1983 from January 1982	December 1982
Total—all employees	323,259	d 18.92	d 6.87
Executives, officials and staff assistants	15,281	d 12.03	d 5.09
Professional, clerical and general	72,461	d 14.62	d 3.57
Maintenance of way and structures	56,451	d 18.29	d 10.61
Maintenance of equipment and stores	61,778	d 26.95	d 8.50
Transportation (other than train, engine and yard)	16,190	d 13.29	d 4.31
Transportation (yardmaster, switchtenders, and hostlers)	6,164	d 17.21	d 4.29
Transportation (train and engine service)	94,934	d 18.66	d 6.77

Source: ICC

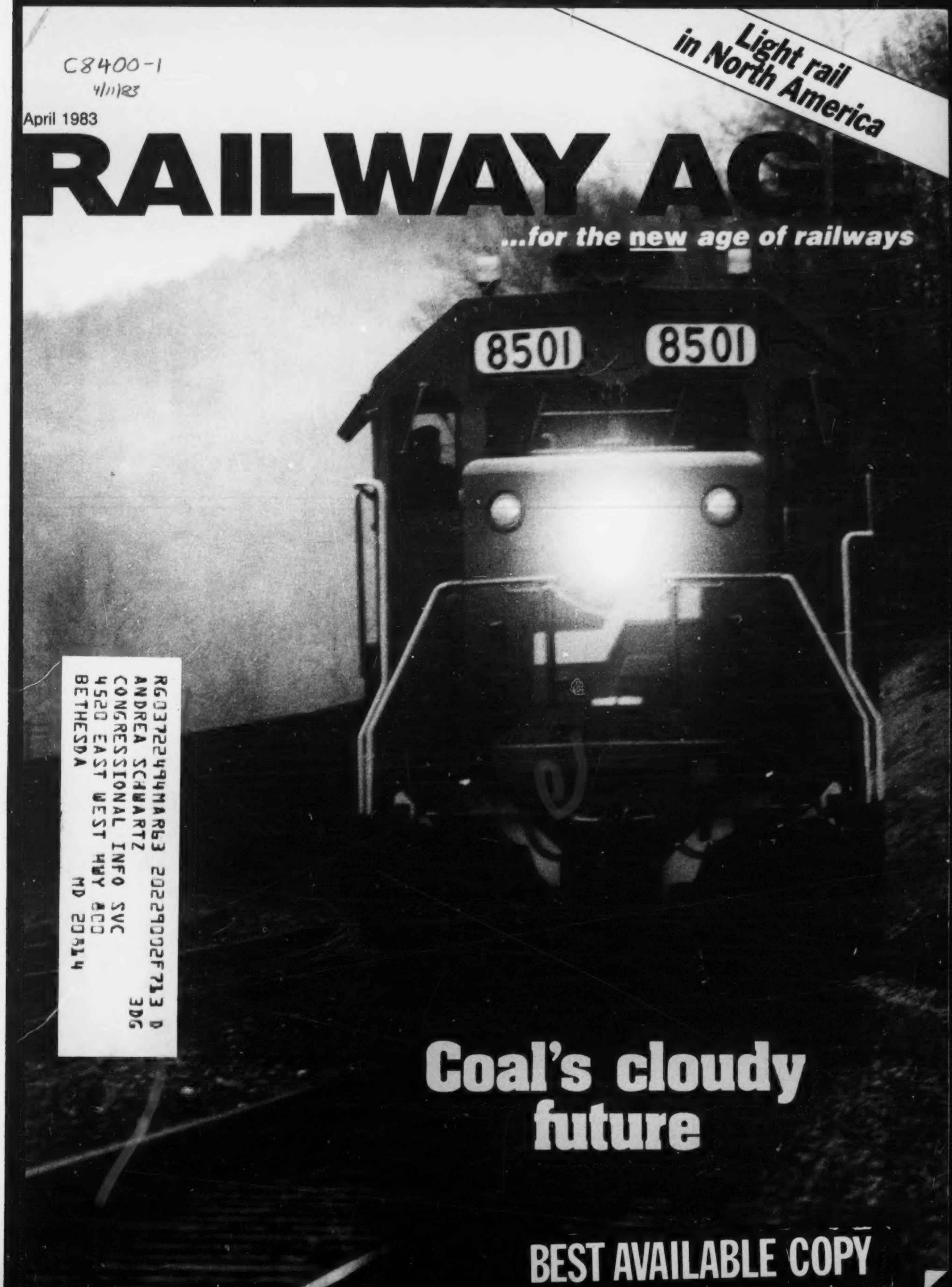
C8400-1
4/11/83

April 1983

RAILWAY AGE

...for the new age of railways

Light rail in North America



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Coal's cloudy future

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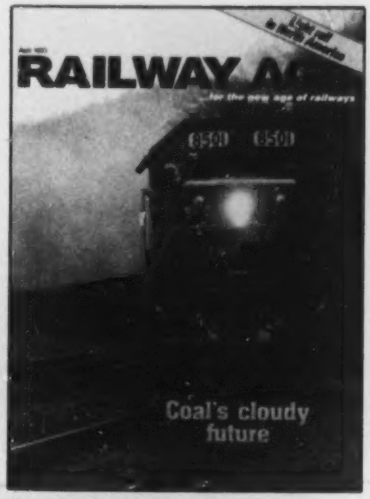
...for the new age of railways



Cover: Seaboard System coal unit train, 72 loads, powered by two EMD SD-50s, was photographed by Bill Tayse. *Page 38.*

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Growth prospects have dimmed in recent months—but there is still growth in the picture and coal will continue to be the railroads' top earner.

42 A new look at Rule G

FRA, NTSB, rail management, and the unions are all involved in a debate over how to develop more effective solutions to an old, old problem.

47 Santa Fe shops: Still innovating

Santa Fe may be, as some say, a conservatively managed railroad—but in the Mechanical Department the command continues to be "innovate".

51 Faith, hope—and R&D

Cardwell Westinghouse has faith in the railroad renaissance and high hopes for its own future—hopes that are backed up by a heightened R&D effort.

55 Resignaling the Northeast Corridor

The awesome proportions of this project are indicated by the fact that 30,000 separate drawings will be needed to document the new system.

60 High-speed derby heats up

The stakes are big: an estimated $10-billion market. Among the contenders are builders in Canada, France, Japan, and Britain as well as the U.S.

65 Light rail in North America

Gibbs & Hill, Inc., offers guidelines for cities interested in light rail—and a statistical profile of those that have already taken this route.

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Inside

A bigger slice of the pie

LUTHER S. MILLER

The 200 people who attended the PLM Coal Conference in Dallas last month were wryly characterized by PLM Chairman Mark Hungerford as "the walking wounded." Missing this year, certainly, was the optimism that pervaded some earlier PLM conferences—when oil prices were soaring and an expanding economy was hungrily searching for cheaper fuels.

But the prevailing feeling among coal interests today is cautiously upbeat. The bad news has been discounted; and while coal's growth prospects are cloudy, there is still the prospect for *some* growth, as Associate Editor Frank Malone points out in our cover story (p. 38). And if the Merrill Lynch Economics forecasters are on target, railroad coal tonnage will grow faster than coal consumption itself (p. 14).

The lightweight race

Interest in aluminum coal cars has been rekindled by the Portec/Alusuisse Algola, now under test, and the Berwick/Reynolds prototype that will soon go on the road. This interest is not likely to be diminished by a report circulated by Reynolds late in March. Reynolds, which supplied aluminum for hundreds of coal cars acquired by the Southern over two decades ago, has twice inspected the cars for wear. The most recent inspection confirmed that "the metal lost in 23 years of service is minimal or nil."

With the passion these days for energy-efficient equipment, Portec and Berwick are betting that they have come up with winners. But don't count steel out. Steel reacted to aluminum's earlier challenge by building better steel cars. You can bet that steel is more than a disinterested bystander as aluminum mounts a new challenge.

Third best is not really all that bad

For a time, it appeared that the year 1982, despite a sickening drop in carloadings, was still the industry's second best year in net income. The AAR's preliminary earnings statement for 1982 showed net of $1.202 billion, second only to 1981's $2.105 billion. But Milwaukee's report was not yet in. When it did come in, with a red figure of $21.6 million, the industry's net dropped to $1.180 billion, below 1980's $1.192 billion. Not bad, still, considering the tenor (and the traffic) of the times.

Associate Editor June Meyer's profile of the financial performance of all Class I railroads appears on pp. 74-75.

Market Outlook

Equipment

Caltrans: Sumitomo is the apparent low bidder for the supply of stainless-steel push-pull cars for Southern Pacific Peninsula commuter service. Sumitomo bid approximately $37 million for the supply of 42 cars. The Budd Co. bid approximately $36 million for 30 cars; and Mitsui Inc. (representing Tokyu Car) bid approximately $39 million for 32 cars.

Dade County Metrorail: The first two of 136 transit cars that Budd is building for Dade County Metrorail have been shipped to Miami for preliminary testing at the Palmetto Yard and Shops Maintenance Facility. Earlier, the cars underwent 16 weeks (and 9,000 miles) of reliability testing at Pueblo, Colo. The Pueblo test simulated conditions under which the cars will be operating.

New York City Transit Authority: Awarded contracts totaling $30.9 million to Morrison-Knudsen and New York Rail Car Corp. (a subsidiary of Nab Construction Corp.) for rehabilitation of 300 IRT subway cars. M-K will rehabilitate 200 cars at Hornell, N.Y.; New York Rail Car will do the remainder of the work at the Brooklyn Army Terminal. Contract price is $103,000 per car.

Facilities

Ohio Rail Transportation Authority: Received a $100,000 grant from the Federal Railroad Administration for over-all state rail planning.

Seaboard System: Will begin construction this fall of a 60,000-square-foot, $13.5-million locomotive-servicing facility at Rice Yard in Waycross, Ga. Due for completion late in 1984, the new facility is designed to service 600 locomotives per month, including some that are now being maintained at Savannah and Jacksonville. Seaboard's budget includes $1.1 million for shop machinery and $1.2 million for pollution control facilities.

Freight cars and locomotives

DELIVERED

	January		December
	1983	1982	1982
Built new by carbuilders	440	1,833	477
Built new in RR shops	54	162	288
Built new—total	494	1,995	765
Rebuilt	0	110	174
TOTAL DELIVERED	**494**	**2,105**	**939**
Locomotives (new and rebuilt)	10	14	93

ORDERED

To be built new by carbuilders	501	815	231
To be built new in RR shops	0	0	0
To be built new—total	501	815	231
To be rebuilt	0	0	0
TOTAL ORDERED	**501**	**815**	**231**

ON ORDER AND UNDELIVERED

	February 1		January 1
	1983	1982	1983
To be built new by carbuilders	4,155	13,231	4,095
To be built new in RR shops	146	1,504	200
To be built new—total	4,301	14,735	4,295
To be rebuilt	0	790	0
TOTAL ON ORDER	**4,301**	**15,525**	**4,295**
Locomotives (new and rebuilt)	30	234	27

Estimated ownership—all revenue freight cars

February 1, 1983 vs. February 1, 1982

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRs	1983	277,371	165,583	134,313	292,600	85,525	56,084	23,195	1,034,671
	1982	313,793	173,886	142,487	304,418	90,822	58,766	25,620	1,109,792
Class II & S&T Cos.*	1983	49,786	9,612	10,397	11,143	4,599	3,405	2,838	91,780
	1982	54,405	8,749	10,758	13,188	4,691	3,547	3,300	98,638
Railbox-Railgon	1983	22,949		3,998					26,947
	1982	24,990		4,000					28,990
RRO&C** Refgs.	1983						4,400		4,400
	1982						3,273		3,273
Private	1983	407	130,989	27,785	21,078	54,015	3,217	186,967	424,458
	1982	738	127,638	26,308	20,770	52,540	7,268	191,082	426,344
GRAND TOTAL	1983	350,513	306,184	176,493	324,821	144,139	67,106	213,000	1,582,256
	1982	393,926	310,273	183,553	338,376	148,053	72,854	220,002	1,667,037

*Class II railroads and switching terminal companies.
**Railroad owned and controlled refrigerator car lines.
Source: Transportation Division, AAR.

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Market Indicators

Who will haul tomorrow's coal?

While Merrill Lynch Economics is predicting a slower growth rate in coal consumption than anticipated a few years ago (p. 39), the forecasting group expects the rail share of coal transportation to continue to increase, reaching 76% in 1995.

In the 1970-1982 period, the share of coal transported by rail increased from 49% to 63%, while the water transport share declined from 28% to 16%. Merrill Lynch attributes this modal shift to the rapid increases in western coal output, which rose from 45 million tons in 1970 to 287 million tons in 1981.

At the PLM Coal Conference in early March, Merrill Lynch's John Hill explained that 90% of western coal output has no alternative means of transport other than the rail system.

"Because western coal is cheaper to mine and is much lower in sulfur content than eastern resources, it is expected to account for roughly 90% of the 500-million-ton anticipated increase in total production through 1995. This should expand the tonnage carried by rail from 517 million tons in 1981 to approximately one billion tons, boosting the rail share from 63% to roughly 76% by 1995," said Hill.

Coal distribution by mode including exports

(Millions of tons)

	Rail		Water		Truck		Other		Total
Year	Tons	Share	Tons	Share	Tons	Share	Tons	Share	Tons
1970	291	(49%)	165	(28%)	64	(11%)	78	(13%)	598
1975	320	(50)	146	(23)	70	(11)	104	(16)	640
1980	495	(60)	155	(19)	101	(12)	68	(9)	819
1981	517	(63)	135	(16)	104	(13)	64	(8)	820
1995F	1022	(76)	148	(11)	108	(8)	67	(5)	1345

Source Merrill Lynch Economics, Inc
Bureau of Mines
Department of Energy

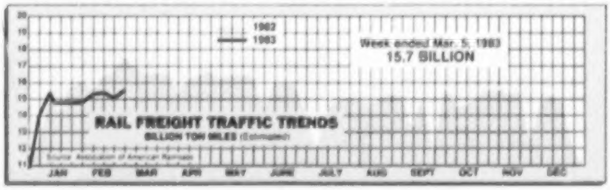
Revenue freight carloadings

Commodity	Mar. 5 week	% change from 1982	Feb. 26 week	% change from 1982	Feb. 19 week	% change from 1982	Feb. 12 week	% change from 1982	Feb. 5 week	% change from 1982
Grain	29,920	7.2	24,302	(17.9)	28,382	1.8	27,874	5.3	24,716	(1.5)
Other farm products	3,057	(32.0)	3,158	(39.6)	2,994	(32.9)	3,537	(5.4)	4,268	10.6
Metallic ores	11,229	(37.3)	11,171	(48.4)	10,732	(46.0)	10,128	(52.4)	9,440	(49.1)
Coal	101,854	(18.4)	101,790	(18.6)	100,018	(16.4)	95,888	(13.9)	95,633	(10.8)
Crushed stone, gravel & sand	7,766	(14.2)	7,372	(17.8)	7,066	(15.0)	7,062	(19.5)	7,429	(14.3)
Nonmetallic minerals	10,204	(6.0)	8,555	(10.1)	10,943	(4.3)	10,286	7.3	10,471	(3.0)
Grain mill products	11,862	(10.9)	11,582	(17.9)	12,368	(8.2)	12,101	(15.5)	12,086	(14.0)
Food & kindred products	12,627	(9.9)	12,439	(17.4)	13,481	(4.6)	13,391	(10.3)	13,200	(10.9)
Primary forest products	14,967	(13.0)	14,927	(18.4)	14,703	(12.2)	13,432	(20.7)	14,348	(12.2)
Lumber & wood products (except furniture)	6,860	17.7	7,391	15.2	7,173	29.9	6,955	28.6	6,947	22.9
Pulp, paper & allied products	15,792	(11.7)	15,446	(15.5)	15,284	(12.5)	15,450	(14.2)	15,632	(14.7)
Chemicals & allied products	25,078	(2.1)	23,086	(9.9)	23,362	(0.2)	23,517	(2.1)	23,080	0.6
Petroleum products	4,630	1.1	4,249	(14.1)	4,310	(16.2)	4,432	(11.1)	4,162	(15.9)
Stone, clay & glass products	9,096	(10.4)	8,740	(14.8)	8,596	(11.1)	8,627	(10.5)	8,855	(8.5)
Coke	4,637	(12.6)	4,952	(9.8)	4,634	(7.7)	4,421	(5.9)	4,274	(12.3)
Metals & products	8,755	(25.2)	8,572	(35.4)	8,205	(22.5)	9,172	(14.4)	8,845	(26.2)
Motor vehicles & equipment	16,179	11.8	16,396	11.5	16,258	12.1	15,648	18.0	15,378	40.1
Waste & scrap materials	8,101	(13.9)	7,725	(21.3)	7,642	(17.7)	7,640	(18.5)	7,093	(22.1)
Forwarder & shipper assn. traffic	9,015	(9.7)	8,510	(18.4)	9,427	1.4	9,556	1.1	8,990	(2.5)
All other carloads	50,557	17.3	47,671	6.4	48,220	16.2	50,711	16.9	48,216	15.4
LCL traffic	220	(86.6)	195	(87.9)	168	(88.5)	213	(87.4)	208	(87.3)
Total Cars Loaded	**362,406**	**(9.2)**	**348,229**	**(15.7)**	**353,966**	**(8.9)**	**350,041**	**(8.4)**	**343,271**	**(7.4)**

Estimated revenue ton-miles (billions)	1983	1982	% change from 1982
9 weeks	135.5	142.0	(4.6)

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
Jan. 29	42,338	16.0	70,993	8.5
Feb. 5	41,611	15.6	69,765	9.4
Feb. 12	47,286	25.4	81,080	21.2
Feb. 19	43,211	22.3	74,307	19.4
Feb. 26	41,666	7.6	71,700	4.1
Cumulative total, 8 weeks	327,158	16.7	558,491	12.1



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Watching Washington

Dereg advocates win key battles at the ICC...

Like an early spring thunderstorm, the Interstate Commerce Commission recently let loose with a brief deluge of decisions. Many of the cases had been pending at the Commission for nearly a year or more, but Chairman Reese H. Taylor, Jr. decided to push for final action before the departure of J.J. Simmons reduced the ICC's size to four members, thus increasing the chances of tie votes. The results of the Commission's actions suggest that railroad deregulation will continue at a rapid pace:

BILL FAHRENWALD

—Most significant were actions recasting an old proposal to liberalize rules for regulation of domestic coal rates (*RA*, Jan. 11, 1982, p. 10), and deregulating export coal shipments (*RA*, May 31, 1982, p. 55). Those actions create a climate for improved earnings on the commodity that accounted for 20% of railroad revenues in 1981.

—To the consternation of many railroads the ICC also granted an exemption from regulation for boxcar traffic. The exemption was sought by Conrail (*RA*, Dec. 13/27, 1982, p. 9).

—Another exemption was granted for a wide range of agricultural commodities that are not now shipped in large quantities by rail (*RA*, Nov. 29, 1982, p. 13).

—And the ICC's adoption of depreciation accounting for track puts railroads on the same accounting basis as all other industries (*RA*, Aug. 10, 1982, p. 11).

Particularly in its proposed "Coal Rate Guidelines—Nationwide" (ex parte 347) and in the exemption of export coal (ex parte 346 [Sub-No. 7]), the ICC has set precedents that have pleased railroads almost universally.

The future also looks promising for deregulation of other commodities. The coal rate decisions and commodity exemptions show that the majority of ICC Commissioners are clearly pro-deregulation. In fact, of the remaining four members only Chairman Taylor can be called particularly cautious about deregulation. Along with Simmons, Taylor opposed export coal and boxcar exemptions. As many as three new Commissioners could be named to ICC vacancies, but there is every chance that deregulation advocates will continue to hold the majority.

...but the war isn't over yet

All of this is not to say that the gates to deregulation have been thrown wide open. Shipper groups are complaining with increasing bitterness about the relaxed regulatory structure that is developing in the wake of the Staggers Act. According to a number of shipper representatives there will be aggressive action in the courts and the Congress to overturn recent Commission actions. Some are even predicting that a backlash will develop against railroads.

Coal-carrying kings

Coal revenues as a percentage of 1981 gross revenues

C&NW	10%	BN	28%
EJ&E	11%	B&O	31%
ICG	12%	L&N	37%
DT&I	13%	B&LE	42%
Conrail	14%	D&RGW	42%
MKT	14%	NW	51%
KCS	16%	C&O	56%
UP	16%	C&S	56%
P&LE	19%	WMD	59%
SOU	19%	Clinchfield	69%
MILW	24%		

Source: ICC

"If anything ever pushed through coal slurry legislation it could certainly be the new coal rate guidelines," says John Anderson, now with consulting firm A.T. Kearney.

The guidelines propose four restrictions on coal rates to captive shippers.

The first constraint is one placed on railroads that meet the ICC's test of revenue adequacy. They would be put under more stringent rate regulation. Other railroads (and today that means nearly all railroads) would be restricted from passing along costs that result from inefficient management; would be limited to a 15% annual ceiling on rate increases; and would not be allowed to charge rates that exceed "stand alone" costs.

Under stand alone costing, railroads would be allowed to raise rates until a shipper could provide the service at the same cost. Shippers fear that this could eventually result in astronomical rates, but Commission and railroad sources note that stand alone costs will be figured based on an appropriately sized plant.

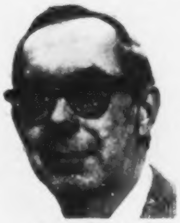
The Commission noted in its guidelines that some railroads could achieve revenue adequacy by the end of this decade if they made full use of the rate increases allowed. But that is not likely to happen, if the comments from one major coal hauler are any indication. "I'll wager that BN will not utilize anywhere near the 15% compounded rate increase and I doubt that within the next eight years [coal rate increases will make us] revenue adequate by the Commission's definition," says Darius W. Gaskins, former ICC Chairman and now BN senior vice president—marketing and sales.

Shippers remain skeptical about the guidelines and it is probable that even more volatile protests will begin once details of the export coal exemption are released. Originally requested by Norfolk & Western, the exemption proceeding was later extended to all railroads. Similarly, the exemption for box car traffic had originally been proposed by Conrail and later extended to all railroads.

Lines on Labor

Bargaining in '84: Will it be the same as it was before?

National-handling. Hardly a man alive, more or less, can remember when bargaining between rail management and rail labor on basic issues—wages, benefits, rules—was not conducted on a national, industry-wide basis. There were meetings in Chicago or, more recently, in Washington. The railroads had their "conference committees," and their leaders, a Dan Loomis, a Doc Wolfe, a Bill Dempsey, a Chuck Hopkins. The unions had their national committees, their coalitions, their leaders. The process worked, more or less. What emerged from that process were uniform wages, uniform benefits, uniform basic rules. But does that process still work? Will uniformity be tomorrow what it was yesterday?


GUS WELTY

Let's put it this way. Breakaways have been happening. More are coming. And "national-handling" as it has been known may eventually go the way of the steam locomotive.

Thus far, the breakaways have been the destitutes among railroads, or at least the very poor who had to go their own way. But recently and currently, more-well-to-do railroads have been looking at individual bargaining. One major road was seriously considering its options in the last round of negotiations, and there may have been more roads doing the same thing. Next time around, the odds are that there will be still more carriers who wonder if their future lies in being part of a "conference committee," or, maybe worse, *not* being part of that committee but being bound by what the committee agrees to.

The solution may lie in individual bargaining, or at least in some form of two-tier bargaining in which the biggest railroads (six or eight or so) do their thing while the smaller roads do theirs.

This is not some sort of proposal brought forth by radicals. Something like this sort of bargaining has been talked about, more or less privately, by major roads, while it was being practiced by those of perhaps lesser capabilities. But now that there have been breakaways and now that the impact of deregulation is being seen more clearly, the talk of change is coming out where it can be heard clearly. One of those who is talking most clearly is John H. Burdakin, president of Grand Trunk Rail System, and what Burdakin is saying is this: "Pricing our product individually, as required by the Staggers Act, is not compatible with nationwide labor negotiations....In the competitive environment which we have in the railroad industry today, a company cannot continue to adjust its prices individually and competitively and still accept a uniform labor contract." Labor and management, John Burdakin suggests, must address the problem together, in a search for a solution that will allow for the flexibility that individual railroads need. He doesn't say that it will be easy. But he does say that it has to come.

Individuality? Two-tier? What?

For their part, the rail unions have never been eager to accept differentials, and until the bankruptcy problems of the 1970s began to threaten employment or even the survival of the enterprise, concessions were almost unheard-of. But rail labor has now demonstrated that it can, in fact, be flexible. Concessions have been made. Agreements have been made, even at the national level, that indicate a willingness on labor's part to try to help build what some are calling the new age of this old industry.

It would be hard for management and labor to get away from national-handling if, in fact, such a movement should develop. On both sides, negotiators on individual properties would have to learn new skills. New agreements could result in employees in the same terminal making more or less money, depending upon which railroad they work for. But, hell, that happens today, and it reflects another aspect of the problem. Most roads continue to be bound by the national agreement, while a few have already broken away and gained a labor-cost edge, and that has led more roads to consider the breakaway option.

Class 1 railroad employment

Employee Group	No. of employees, mid-month count February 1983	Percent of change February 1983 from February 1982	Percent of change February 1983 from January 1983
Total-all employees	319,326	d 17.76	d 1.22
Executives, officials and staff assistants	15,153	d 12.55	d .84
Professional, clerical and general	71,678	d 14.21	d 1.08
Maintenance of way and structures	55,434	d 16.12	d 1.80
Maintenance of equipment and stores	60,234	d 26.29	d 2.50
Transportation (other than train, engine and yard)	15,675	d 14.02	d 3.18
Transportation (yardmaster, switchtenders, and hostlers)	6,035	d 17.25	d 2.09
Transportation (train and engine service)	95,117	d 16.63	i .19

Source: ICC

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a decade of challenge

cheaper oil, a slowing world economy—all are casting clouds over coal's growth prospects.

Robert B. Claytor, chairman and CEO.

Conrail sees 1983 volume rising about 4% to 70 million tons following completion of a $41-million project for export coal-handling. Shiploading capacity at South Philadelphia's Pier 124 has risen to 5,000 tons per hour from 1,350. CR shared the cost of two new rotary dumpers and other improvements with the state of Pennsylvania. The railroad expects export coal volume to grow by 2% this year.

Recently-mated Missouri Pacific and Union Pacific had contrary experiences last year. MoPac's 1982 coal volume totalled 37.4 million tons, up 18%, while UP's was down 18% to 26.7 million tons. UP suffers more from weak export markets than does its partner.

Santa Fe's 1982 coal volume, 23.5 million tons, was down somewhat from the 1981 total, but the railway expects a 10% improvement this year. A major reason is a new utility customer.

- **"Unbelievable" stockpiles.** Denver & Rio Grande Western hopes for a 1.5% increase "at best," says Harold E. Cash, vice president-fuel traffic. D&RGW's 1982 total of 19.5 million tons was down 11.4% from the 1981 level. "Most of the utilities that we serve have stockpiles that are unbelievable," says Cash.

Finally, Illinois Central Gulf sees little improvement this year, after a 4.6% gain in tonnage last year. In late 1983, ICG will start hauling coal from a new mine in southern Illinois, for a movement of two million tons annually.

The National Coal Association is no more optimistic about 1983 than the railroads. NCA expects coal production to rise just 2.1% to 837 million tons. "With the continuing recession in 1982, coal consumption lagged, and stockpiles at mines and consuming industries grew," an NCA spokesman says. "As a result, coal production began to drop in the last half of 1982, and we expect it to continue dampened in 1983 as these stockpiles are reduced." Railroads handle about two-thirds of the coal produced in the United States.

For something cheerier about the coal outlook, both producers and haulers were looking to 1984 and beyond—until recently. Now, the same oil prices that are aiding economic recovery seem to weaken coal's chances as an energy option. However, the impact of cheaper oil will remain speculative for a while yet. Meanwhile, NCA sees little change except possible deferral of some plans for conversion to coal fuel.

"The coal option remains strong and viable in terms of new plant construction," an NCA spokesman says. "What utilities have on the drawing boards now are primarily coal-fired power plants. We don't think that utility planners are going to rethink their plans because the price of oil is dropping. Even with some erosion, the cost differential is significant. Oil is more than three times costlier per Btu and would have to drop to about $15 a barrel to equal coal."

Sharing that view is the Edison Electric Institute, representing about 200 utilities, or 75% of all U.S. power companies. "We believe that most of our members, having been burned by the OPEC twice in the 1970's, are going to continue to move to coal or some other fuel besides oil," says Chuck Linderman, EEI manager-fossil fuels. "Conversions and construction, at least where the permit process is well along, will probably continue."

One major conversion completed last year was the $75-million transformation of Martin Marietta's Port Alucroix power plant for coal use—right next to the world's largest oil refinery in St. Croix, Virgin Islands. The plant will burn 250,000 tons a year. Norfolk Southern moves the coal to Savannah, Ga., for ship delivery to St. Croix.

But the world-wide depression, as the

Merrill Lynch: "Slower growth but strong nonetheless"

John Hill, manager of energy research at Merrill Lynch Economics, agrees with other forecasters that coal's growth curve will be more gradual than most experts thought a few years ago. But he still sees an encouraging long-term trend. This is the way he put it at the PLM Coal Conference in Dallas early in March:

"The long-term outlook for coal consumption growth has become increasingly less optimistic than most analysts envisioned when oil price growth was expected to be much stronger. With real oil prices expected to remain relatively constant through 1995, the perceived incentive for coal conversion has diminished. Total coal consumption has increased 4.6% per annum since 1974, fueled by rapid growth in electric utility demand and in exports, which increased 6.2% and 9.2%, respectively. However, due to current expectations of slower long term economic and oil price growth, we project that utility coal consumption and export shipments will increase at the slower rates of 3.7% and 6.5% respectively, while steel industry consumption should actually decline. Total coal requirements should therefore expand 4.0% per annum through 1995, a slower rate of growth than many analysts previously predicted, but strong growth nonetheless."

Coal consumption
(million tons)

	Electric Utilities	Coke Plants	Industrial and Other	Total Domestic Consumption	Exports	Total Consumption
1975	406	84	73	563	66	629
1980	569	67	67	703	90	793
1981	597	61	75	733	110	843
1982E	592	41	74	707	105	812
1983F	620	45	75	740	100	840
1985F	670	54	81	805	117	922
1990F	795	54	91	940	170	1,110
1995F	950	53	101	1,104	240	1,344

E = Estimate
F = Forecast

Source: Department of Energy
Merrill Lynch Economics, Inc.

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New life for light rail

Street cars—an on-again, off-again part of the American transportation scene—may soon be on-again. New money is becoming available, and the mode is more attractive than ever.

By FRANK GILMAN, Consultant
Gibbs & Hill, Inc.

Looking back at street cars or trolleys of the past, we recall their enormous popularity. Routes developed rapidly in all significant cities and extended radially, mostly along existing traffic lanes. Economically and reliably they satisfied community objectives for transportation.

With the increased mobility provided by autos, the migration to suburbs and the generally increasing affluence over the last three decades, the presence of trolleys on city routes became anathema to motorists. As urban-renewal projects and center-city developments proliferated, the trolley became an endangered species.

Nevertheless, a number of such systems continue to provide valued transportation, some having served their communities since the beginning of this century. These are identified in the accompanying table (pp. 66 and 67). Noticeable in this summary is the long period of construction inactivity brought about by increasing automobility.

San Diego has provided the latest American light rail success story—but not, perhaps, the last.

• **Now, a renaissance.** But note the recent revival of interest in this transportation mode. Almost as many new systems have appeared in this decade as remain from the preceding century of trolley service. Certainly the positive steps taken by cities as Buffalo, Detroit, Los Angeles, Portland, Sacramento, San Diego, San Jose and Seattle are convincing evidence that a renaissance is in the making.

Many cities are rediscovering the trolley as a means of improving the movement of people into and out of congested areas. Trolleys are an intermediate-capacity transportation mode suitable for moving 5,000 to 20,000 passengers per hour in each direction. Such systems can be made to blend into modern society's needs and receive greater acceptance when they conform to new Light Rail Transit (LRT) criteria. Designs can be woven into a specific urban fabric, whether it involves business, parks, residential, recreational or historic areas.

The key to the latter-day LRT concept is that most of the rights-of-way are to be for the exclusive use of light-rail vehicles, though they need not be grade separated.

Cities are discovering that "light" does not connote an inferior rail system or a return to street cars clanging through traffic. Today's LRT is a transit system that is "light" in comparison with subway and commuter rail systems; it uses lighter-weight cars and lighter-weight catenary systems. But it can be heavy in return-on-investment. It can be built rapidly. It is moderate in capital costs, in operating/maintenance costs, and in energy usage.

• **Finding the funds.** While there are many sound arguments to advance the cause of LRT, there remains the problem that confronts all transit planners—funding.

President Reagan's New Federalism plan—turning over to the states the responsibility for funding large programs—did little to encourage public transit. In fact, it created agonizing situations country-wide. With reduced federal funding, many blossoming programs withered. Some survived through the efforts of states and localities to increase taxes, sometimes in innovative ways. But this was oftentimes only a holding action.

Today the picture is changing. The five-cent gasoline-tax increase earmarked for rehabilitation of highways, bridges and aid to transit is becoming available. There may even be opportunities for assistance under the proposed federal Jobs Program.

The gas tax could be a prime source of support for LRT programs. These tax receipts go into the Highway Trust Fund, a portion of which is going to be allocated to a Mass Transit Account and administered by the Urban Mass Transportation Administration. Approximately $550 million of these receipts will be available in FY 1983 for mass transit use. Another $229 million—authorized but not budgeted by the Administration—is being held in reserve. This is an exciting source of assistance for transit capital projects.

UMTA has already made a preliminary apportionment of these new funds to almost 400 urbanized areas—an allocation based on such factors as population density and existing transit route miles. These preliminary allocations may be found in the Jan. 24, 1983, issue of the Federal Register.

Published in the same Federal Register was a proposed DOT rule strengthening the President's Federalism program by highlighting the greater power given to elected state and local governments. This makes it clear that the priorities are to be established not in Washington but at the state and local levels.

States will now have an opportunity to use

Light rail in North America

No.	Year of Initial Operation	City	Million Population*	ROUTE MILES				Avge. Distance Betw. Stations	Speed MPH Latest Cars		Annual Million Passengers	Avge. Trip Length	Annual Million Passenger Miles
				In Operation									
				Total	Under Ground or Tunnel	In Construction	In Design Planning		Maximum Design	Avge. Commercial			
		Canada											
1.	1981	Calgary	.5	7.7	.9		6.4	1.4	50	20	10.8	5.5	59.4
2.	1978	Edmonton	.6	5.6	1.5	.6		.9	50	30	7.0	3.5	21.9
3.	1892	Toronto	2.1	45.6		4.3		.05	50	10	92.2	2.0	225.0
4.	1986	Vancouver	1.2			12.8		.9	55	45	30.0		
		U.S.											
5.	1897	Boston	2.8	32.6	11.2			1.2	50	12	46.0	2.5	130.2
6.	1984	Buffalo	1.2			6.4		.5	50	28	11.3		
7.	1920	Cleveland	1.9	13.2	.3			.5	60	22	5.0	7.7	39.8
8.	1995	Denver(5)	1.6				15.0						
9.	1988	Detroit	4.3				15.0	.9	50	26	45.0		
10.	1963	Fort Worth	3.0	1.2	.3			.3	30	15	1.5	.9	1.3
11.	1987	Los Angeles (Long Beach)	7.4				22.5	.7					
12.	1935	Newark	2.0	4.3	1.2	4.3(1)		.4	45	21	3.1	2.7	8.5
13.	1893	New Orleans	1.2	6.6				.06	30	9	6.9	3.1	17.7
14.	1892	Philadelphia	4.7	95.6	2.4			.06	50	15	25.2	3.2	80.6
15.	1891	Pittsburgh	2.3	25.0	.7	3.1 10.1(1)		.8	45	16	5.4	6.8	35.9
16.	1986	Portland	1.2			15.1		.6	55	25	20.4		
17.	1985	Sacramento	1.0				18.3	.7	55	21	8.0		
18.	1981	San Diego	1.9	16.0			15.5	1.0	50	25	3.9	8.8	34.3
19.	1891	San Francisco	3.2	21.0	3.1			.1	60	9	20.0	3.4	68.0
20.	1987	San Jose (Santa Clara)	1.3				20.0	.7			10.0		
21.	1982	Seattle	1.6	1.6				.2	40	35	.5	1.6	.8
		Mexico											
22.	1900	Mexico City	8.9	21.0				.3	48	12	24.7	21	518.7
TOTAL				297.0	21.6	56.7 (14.4(1))	112.7						

*Standard Metropolitan Statistical Area Population

(1)In Rehabilitation

(2)Canadian Light Rail Vehicles

(3)In conjunction with the UTDC (Urban Transportation Development Corporation) of Ontario.

No. of Cars	Cars to be Delivered	Type of Cars	Manufacturer Latest Cars	Annual Million Car Miles	Passenger Capacity Latest Cars Total	Passenger Capacity Latest Cars Seated	Power Supply Voltage	Stops and Stations
30		LRV's(A)	Siemens Duewag	1.2	162	64	600	10
21	16	LRV's(A)	Siemens Duewag	2.0(4)	162	64	600	8
369		173 PCC's 196 CLRV's(2)	Hawker Siddeley(3)	9.4	131	46	570	1,006
	114	CLRV's(2)	Metro Canada(3)		75	40	600	15
225		100 PCC's 125 LRV's(A)	Boeing Vertol Co.	5.6	219	52	600	27
	26	LRV's(A)	Tokyo Car Corp.		140	51	650	14
48		LRV's	Breda Costruzioni	1.2	126	84	600	28
	60	LRV's			161	64	750	17
8		PCC's	St. Louis Car Co.		100	60	600	5
	50(4)	LRV's						31
26		PCC's	St. Louis Car Co.	.6	125	55	600	11
35		Vintage	Perley Thomas Co.	.7	80	52	600	104
506		198 PCC's 308 LRV's	Kawasaki Heavy Ind. Ltd.	5.7	85	54	600	1,701
90	55	90 PCC's 55 LRV's(A)	Siemens Duewag	1.9	150	62	600	34
	26	LRV's(A)	Bombardier Inc.		166	76	750	25
	26	LRV's			190	64	600	27
24	16	LRV's(A)	Siemens Duewag	1.0	170	64	600	31
150	30	50 PCC's 100 LRV's(A)	Boeing Vertol Co.	2.7	175	68	600	202
	30	LRV's			151	68		28-30
4			Melbourne Metropolitan Tramways (Australia)		92	52	600	7
50		PCC's	St. Louis Car Co.	2.2	220	54	600	67
1.586	449							

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(4)Approximation

(5)Funding has not been authorized

(A)Articulated

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an alternative to UMTA's life-cycle costing; even the Buy America requirement will be modified to suit the findings of each state. The U.S.DOT remains available for consultation, but it will not constrain states in the selection of a program. This new freedom of action, coupled with increased federal funding, should accelerate the forward movement of proposals for new and expanded LRT systems.

- **Getting LRT on track.** How can proponents of new LRT systems benefit from these new measures? Here are some suggestions for getting a program on a viable track.

A first requirement is dynamic leadership—the presence of a prime mover who can motivate a team of qualified engineers and planners. Such a team can generate the needed support from key decision makers—community leaders, business leaders, public-opinion leaders.

Forward momentum must be maintained. In the past, getting the necessary UMTA approvals slowed the process. Now, the ritual of a long alternatives analysis and/or the prospect of a referendum may be avoided. In the past, the prolonged life of a proposal brought out a multitude of interested parties erecting bureaucratic barriers. The infighting of these parties sometimes obscured the fundamental goals of the proposal itself—and the result was seemingly endless bureaucratic delay.

The most logical approach is for a state or locality to identify a justifiable LRT project, define the need, adopt proven standards for meeting that need, avoiding custom design, and forge ahead in a strong, well-organized, non-stop manner. San Diego did it this way—and successfully. If an army of intervenors is allowed to develop, the old anti-street-car bias may ultimately prevail.

- **To each its own.** The objective in the planning and engineering phase is to meet transportation goals in an economic and environmentally sound manner. Each urban community will have its own unique requirements. But any new system or extension must be able to attract a large proportion of those who can benefit from public transportation through attractive schedules and effective routings. The system chosen must blend into the existing and future community infrastructure and present to the public a service opportunity that will encourage a reduction of auto travel, avoid the need for highway extensions, and reduce construction of central-city parking facilities.

A balance of economic and operating considerations must prevail during the system's formative period, especially in the selection of rights-of-way. For instance, in Buffalo, where a system is under construction, some lines at surface are the only practical way to go, even though Buffalo must face the problem of tremendous snow accumulations. In Pittsburgh, where construction is also under way, better weather prevails, yet undergrounding is the only reasonable option. In the CBD, where the LRT will operate under extremely narrow streets, cut and cover is the solution.

Planners and engineers must aim their focus downwards and search for the most basic features of an LRT system that is acceptable and affordable. Many system operators will want a showcase system. Their wish-list may contain a number of state-of-the-art features—high-level platforms, customized vehicles, ultra modern passenger stations, off-vehicle fare-collection methods, high-speed operation, chopper control of cars, regeneration, elaborate train-control systems, traffic-signal pre-emption and the like—but planners should be brought back to the harsh realities of funding limitations and rely on tested and proven technology. Sacramento is an example where the community has opted for a "bare bones" but aesthetically pleasing concept in order to speed implementation. The objective is to come up with a functional transportation system of a conservative and proven design, thus avoiding a lot of wasted time studying alternatives, unwarranted capital expense, and costly maintenance staffing. Otherwise, the implementation of a project will fade under the weight of financial constraints and implementation delays.

- **Key to success: Public support.** Light rail has the unique characteristic of being able to exploit all the foregoing levels of sophistication as well as the prospect of drawing upon a number of flexible options for rights-of-way. There is no one package that meets all needs. Only a case-by-case analysis can prove how complex a system need be. It boils down to the level of patronage, economy and improvement in service that will be gained. One thing certain is that a steel wheel/steel rail system is still a viable mode of transportation.

Society and the community at large has a stake in transit. Public policy and support is the key to success and can influence speedy development of LRT. For instance, joint activities can contribute financial benefits—e.g., the participative design of a passenger station alone is incentive enough to bring groups together improving community relations, improving passenger amenities, and benefitting nearby establishments.

The ultimate social objective is the sharing of costs and benefits, the sharing between the user and non-user in an equitable manner, to create an environmentally efficient transportation system. There may be a need to subsidize a portion of LRT operating costs as part of society's contribution, but many recent transportation analyses—in Sacramento, San Jose, and Los Angeles, for example—show a subsidy to be an acceptable public obligation. If recent analyses on the West Coast are so promising for LRT, it seems other cities, which have been holding back, could well find that LRT has a future on their own home grounds. ■

Contributing authors: A.P. Engel, vice president, and Susan A. Ingrao, marketing specialist, Gibbs & Hill, Inc.

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REVENUES AND EXPENSES OF RAILWAYS

Fourth quarter figures of calendar year 1982

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Way & structures			Equipment					Operating Ratio		Income after fixed charges		1982 Net Ry. operating income	Net income	
		Freight	Other	Total 1982	Total 1981	Total 1982	Total 1981	1982 Deprec.	Total 1982	Total 1981	1982 Deprec.	Total 1982	Total 1981	1982	1981	1982	1981		1982	1981
Amtrak	3 mos.	—	131,925	131,925	107,504	30,069	23,983	3,770	80,715	77,739	20,113	307,815	295,454	233.32	274.83	(192,338)	(206,657)	(175,890)	(192,338)	(206,657)
	12 mos.	—	537,282	537,282	1,037,873	119,492	91,415	22,861	308,411	344,450	70,338	1,215,710	1,267,275	226.27	122.10	(762,935)	(299,947)	(678,428)	(762,935)	(299,947)
Atchison, Topeka & Santa Fe	3 mos.	478,543	9,759	488,302	565,386	94,643	89,213	3,724	118,420	147,801	23,098	504,577	549,938	103.33	97.26	(11,384)	11,070	5,727	(977)	26,350
	12 mos.	2,036,697	40,963	2,077,660	2,370,775	319,647	392,936	14,634	483,938	533,428	91,732	1,996,322	2,219,928	96.08	93.63	63,499	125,474	74,957	56,207	110,567
Baltimore & Ohio	3 mos.	180,979	8,834	189,813	281,778	37,756	45,205	2,217	47,786	72,305	7,227	212,375	259,596	111.88	92.12	(17,323)	50,055	(9,831)	(5,705)	35,628
	12 mos.	859,917	40,020	899,937	1,059,276	207,302	207,268	7,704	207,720	252,058	29,428	929,071	1,000,847	103.23	94.48	(28,304)	100,613	(279)	(2,875)	72,656
Bessemer & Lake Erie	3 mos.	13,173	4,406	17,579	31,112	4,663	4,547	1,263	2,909	2,751	780	17,288	21,539	98.34	69.23	1,366	11,821	(1,562)	(486)	2,981
	12 mos.	64,983	17,076	82,059	117,843	15,565	16,207	3,390	12,576	10,007	4,894	80,769	81,880	98.42	69.48	5,075	43,927	(240)	3,543	21,952
Boston & Maine	3 mos.	27,384	1,263	28,647	30,361	6,616	5,614	338	9,228	7,195	358	32,847	30,106	114.66	99.16	(3,647)	2,888	(3,547)	(3,257)	5,038
	12 mos.	114,936	5,117	120,053	121,918	25,274	24,915	1,322	34,729	30,806	1,441	126,482	123,160	125.36	101.01	(1,999)	4,761	—	(2,188)	6,328
Burlington Northern	3 mos.	953,549	21,923	975,472	1,024,133	189,641	194,675	6,567	182,809	200,749	17,097	854,536	934,613	87.60	91.25	100,536	129,626	95,201	71,694	76,457
	12 mos.	3,676,038	91,125	3,767,163	4,080,624	794,365	776,075	25,731	769,923	826,302	72,473	3,526,207	3,731,548	93.60	91.44	235,288	417,547	183,195	174,331	273,304
Chesapeake & Ohio	3 mos.	231,841	9,538	241,379	312,866	43,679	45,305	1,967	49,794	59,470	3,314	220,450	247,582	91.32	79.13	30,306	124,730	22,745	32,055	89,464
	12 mos.	994,509	46,604	1,041,113	1,057,152	209,644	191,066	7,824	216,567	222,038	12,851	940,018	936,913	90.28	88.62	151,140	235,621	68,579	116,335	175,809
Chicago & North Western	3 mos.	170,764	26,778	197,542	227,292	37,578	47,192	1,464	44,638	50,603	4,533	195,364	226,596	98.89	99.69	(3,404)	9,591	3,813	(3,457)	8,500
	12 mos.	707,523	100,337	807,860	983,168	170,075	214,729	5,624	198,451	224,716	17,660	829,219	968,428	102.64	98.50	(26,335)	8,701	15,148	(26,406)	7,500
Chicago, Milwaukee, St. Paul & Pac.	3 mos.	71,395	8,197	79,592	94,157	18,931	37,821	788	23,286	27,699	3,526	87,112	130,256	109.44	138.33	(3,228)	(37,626)	(7,488)	(11,429)	12,323
	12 mos.	320,747	42,802	363,549	404,359	86,428	106,377	3,139	105,754	121,742	14,612	402,489	486,753	110.71	120.37	(436)	149,433	(38,847)	(21,595)	193,210
Clinchfield	3 mos.	23,208	277	23,485	26,457	6,834	4,806	128	5,215	3,436	987	24,048	21,686	102.39	81.96	—	7	(138)	—	—
	12 mos.	99,310	1,327	100,637	104,271	23,571	18,786	498	19,893	14,917	3,920	91,338	79,852	90.75	76.58	—	18	11,326	—	—
Conrail	3 mos.	662,819	146,169	808,988	954,381	181,187	184,844	7,730	216,548	263,921	37,746	844,782	967,071	104.42	101.33	(40,474)	(14,152)	—	22,969	(4,436)
	12 mos.	2,833,975	606,497	3,440,477	4,001,122	760,523	759,473	28,994	893,606	1,052,500	150,146	3,565,286	4,087,511	103.63	102.16	(133,144)	(118,694)	(123,908)	2,428	(106,616)
Delaware & Hudson	3 mos.	24,695	727	25,422	30,522	7,013	7,242	154	8,092	8,431	867	30,364	31,802	119.43	104.19	(7,291)	(3,405)	(4,840)	(7,291)	(3,405)
	12 mos.	106,303	4,270	110,573	120,181	26,304	23,805	635	30,557	33,243	3,475	121,936	127,126	110.27	105.77	(20,231)	(14,894)	(10,968)	(20,231)	(14,894)
Denver & Rio Grande Western	3 mos.	65,769	1,259	67,028	84,404	10,571	13,802	678	12,821	13,218	3,077	60,793	69,836	90.69	82.74	5,660	14,911	4,888	4,316	10,769
	12 mos.	286,211	6,252	292,463	335,091	51,166	59,562	2,614	54,910	51,726	12,148	268,983	286,231	91.97	85.41	21,767	48,588	17,854	16,148	30,295
Detroit, Toledo & Ironton	3 mos.	15,318	699	16,017	20,590	2,780	4,261	121	6,226	6,443	917	20,191	21,891	126.05	106.31	(4,951)	(823)	(4,171)	(4,951)	(823)
	12 mos.	65,585	2,687	68,272	86,448	14,007	17,063	477	24,881	24,545	3,778	82,827	86,906	121.31	100.52	(16,459)	(2,406)	(14,540)	(16,459)	(2,406)
Duluth, Missabe & Iron Range	3 mos.	8,838	191	9,029	19,080	5,636	9,440	920	1,978	2,463	718	15,736	23,624	174.28	123.81	(6,138)	(2,889)	(4,385)	(3,409)	(1,391)
	12 mos.	52,389	1,931	54,320	108,890	23,049	31,177	3,591	9,483	12,141	2,392	67,160	90,210	123.63	82.84	(9,060)	23,191	(8,729)	(4,595)	12,935
Elgin, Joliet & Eastern	3 mos.	13,624	6,309	19,933	23,367	2,617	3,305	196	2,743	3,311	1,835	18,195	21,679	91.28	92.77	2,483	3,074	1,276	2,021	2,201
	12 mos.	55,391	33,789	89,180	109,982	13,600	14,367	780	9,312	15,124	7,426	79,562	94,774	89.21	86.17	13,729	21,027	3,935	8,046	11,517
Florida East Coast	3 mos.	24,763	399	25,162	25,686	5,017	9,114	321	4,078	4,793	1,023	20,772	25,499	82.55	99.27	6,726	1,419	1,239	3,575	2,220
	12 mos.	90,459	1,326	91,785	102,659	21,684	29,486	1,260	13,862	16,633	4,055	79,428	93,070	86.53	90.65	20,079	15,757	4,877	12,599	11,811
Grand Trunk Western	3 mos.	45,290	4,274	49,564	64,614	7,670	8,941	473	15,857	13,304	1,218	61,328	62,126	123.73	96.14	(13,203)	4,979	(11,047)	(12,514)	5,639
	12 mos.	222,656	13,097	235,753	234,665	34,451	32,892	1,841	56,236	48,515	4,831	245,841	230,219	104.27	98.10	(13,586)	4,137	(7,910)	(11,425)	6,837

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Illinois Central Gulf	3 mos.	192,263	20,153	212,416	257,892	39,701	47,708	1,982	56,605	73,529	6,383	220,836	261,620	103.96	101.44	(11,434)	21,837	45,288	41,784	19,818
	12 mos.	815,358	80,504	895,862	1,032,767	193,893	205,380	7,922	269,661	285,359	25,935	984,104	1,051,206	109.84	101.78	(89,980)	(5,931)	(29,171)	(24,859)	(5,921)
Kansas City Southern	3 mos.	67,433	3,136	70,569	78,005	15,430	14,927	865	16,445	17,376	5,122	66,365	68,867	94.04	88.28	253	6,524	4,500	527	6,232
	12 mos.	294,457	13,112	307,569	310,128	63,051	60,062	3,189	66,686	63,076	20,706	274,761	264,761	89.33	85.37	20,729	33,797	28,141	16,026	26,642
Long Island	3 mos.	2,606	105,869	108,475	107,186	26,091	24,266	857	24,746	22,209	1,642	116,514	113,072	107.41	105.49	(8,158)	(6,192)	(6,971)	(8,158)	(6,192)
	12 mos.	12,379	402,717	415,096	392,121	98,126	85,631	3,428	101,665	73,579	6,196	454,652	426,291	109.52	108.71	(39,998)	(35,156)	(35,245)	(39,998)	(35,156)
Louisville & Nashville	3 mos.	252,787	3,538	256,325	324,236	45,002	56,529	2,213	67,867	73,598	10,671	250,946	293,057	97.90	90.38	(1,877)	63,564	22,785	14,136	41,673
	12 mos.	1,084,807	19,090	1,103,897	1,267,434	196,076	218,256	7,647	279,007	276,494	40,823	1,056,127	1,144,090	95.67	90.26	16,147	135,722	70,420	32,699	104,413
Missouri-Kansas-Texas	3 mos.	48,471	2,652	51,123	62,693	7,323	15,076	393	11,126	12,420	1,744	46,122	59,059	90.21	94.20	1,817	(778)	4,713	1,682	(3,872)
	12 mos.	217,505	12,544	230,049	268,251	36,512	54,126	1,410	58,922	67,540	9,069	212,916	248,748	92.55	92.72	6,273	7,769	17,339	6,138	7,675
Missouri Pacific	3 mos.	367,052	11,105	378,157	463,440	62,109	84,086	2,731	89,022	112,366	17,690	359,030	416,804	94.94	89.93	10,191	42,689	24,649	13,291	34,855
	12 mos.	1,627,402	51,362	1,678,764	1,887,660	262,694	314,331	10,565	393,758	428,461	69,822	1,508,612	1,660,169	89.86	87.94	140,659	206,906	148,271	108,620	148,323
Norfolk & Western	3 mos.	366,845	15,644	382,489	492,194	80,965	72,216	3,766	69,887	83,500	14,483	334,812	353,107	87.53	71.74	82,453	159,911	28,261	53,018	93,525
	12 mos.	1,673,773	63,513	1,737,286	1,785,907	349,168	291,967	14,441	299,906	292,266	57,804	1,420,624	1,341,925	81.77	75.13	443,225	502,967	185,228	273,497	291,063
Pittsburgh & Lake Erie	3 mos.	9,480	248	9,728	19,197	1,814	3,461	44	2,390	3,505	322	12,802	18,116	131.59	94.36	(3,552)	1,581	(3,058)	(3,540)	1,080
	12 mos.	44,691	2,525	47,216	82,641	9,214	13,988	173	13,073	11,822	1,206	60,553	72,647	128.24	87.90	(18,291)	6,994	(11,631)	(16,690)	21,795
St. Louis Southwestern	3 mos.	74,649	1,474	76,123	100,244	8,380	12,967	580	17,839	19,554	5,631	67,853	83,578	89.13	83.37	10,512	59,425	5,027	7,269	41,136
	12 mos.	335,446	5,527	340,973	388,875	47,910	62,561	2,201	76,432	72,116	23,468	299,874	335,578	87.94	86.29	47,152	90,024	27,811	33,864	61,001
Seaboard Coast Line	3 mos.	296,036	9,867	305,903	320,115	56,434	57,881	2,965	82,480	82,030	9,787	308,246	310,197	100.76	96.90	161,744	89,497	(6,566)	156,278	43,552
	12 mos.	1,153,478	37,833	1,191,311	1,319,066	217,573	235,129	10,199	310,070	316,610	36,508	1,176,918	1,234,917	98.79	93.62	221,954	249,201	22,189	226,634	197,425
Soo Line	3 mos.	65,761	1,918	67,679	85,028	12,150	16,427	470	15,755	15,031	2,018	63,314	70,309	93.55	82.68	4,537	15,407	2,456	2,412	10,980
	12 mos.	277,775	6,418	284,193	329,659	58,774	73,895	1,791	62,260	59,057	8,113	263,501	278,714	92.71	84.54	24,441	55,193	12,391	15,293	36,398
Southern	3 mos.	375,527	8,502	384,029	450,768	61,156	73,146	5,546	75,270	86,157	16,837	334,610	371,380	87.13	82.38	49,313	82,198	35,586	30,493	52,105
	12 mos.	1,566,654	36,943	1,603,597	1,790,669	250,881	282,003	20,119	322,942	333,839	79,632	1,381,955	1,451,200	86.17	81.04	223,724	330,876	150,444	143,590	212,080
Southern Pacific	3 mos.	431,252	13,726	444,973	548,197	66,111	74,571	4,846	130,307	148,735	21,701	482,567	548,900	108.44	100.12	11,869	35,215	(41,827)	7,631	21,905
	12 mos.	1,933,025	63,038	1,996,063	2,262,820	313,820	339,563	19,039	579,905	584,658	86,751	2,089,490	2,246,115	104.68	99.26	387	51,303	(85,665)	8,149	47,843
Union Pacific	3 mos.	406,042	6,292	412,334	502,141	60,199	77,345	3,419	95,066	102,867	24,001	386,015	441,246	93.61	87.87	21,613	51,807	30,866	26,100	37,980
	12 mos.	1,748,678	24,659	1,773,337	2,100,793	266,668	329,545	13,142	377,413	407,305	97,000	1,604,369	1,808,443	90.47	86.08	146,602	245,591	127,733	105,028	167,368
Western Maryland	3 mos.	20,314	592	20,906	26,831	4,495	4,646	219	1,679	2,429	1,290	14,934	18,057	71.43	67.29	6,149	9,728	3,050	3,224	5,166
	12 mos.	84,099	2,735	86,834	93,142	19,045	21,971	865	9,523	10,164	5,715	67,691	75,843	77.95	81.42	21,536	18,660	9,208	11,573	10,520
Western Pacific	3 mos.	37,087	565	37,652	44,736	7,333	6,391	143	9,648	9,124	1,770	43,993	44,859	116.84	100.27	(4,906)	3,394	(4,861)	(3,456)	231
	12 mos.	169,503	2,294	171,797	188,250	29,100	30,066	509	40,585	42,750	7,109	183,117	193,917	106.58	103.01	(7,105)	13,966	(8,145)	(4,050)	9,132

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May 1983

RAILWAY AGE

...for the new age of railways

[illegible]-track roads:
Seaboard System

TOFC/COFC terminals:

Where the action is

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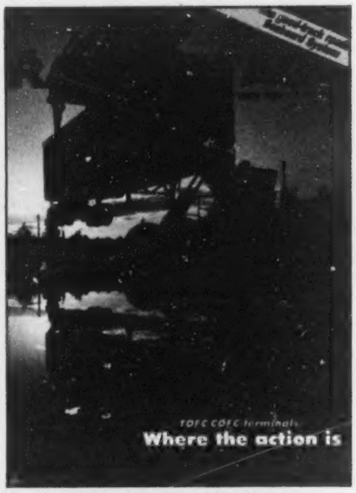
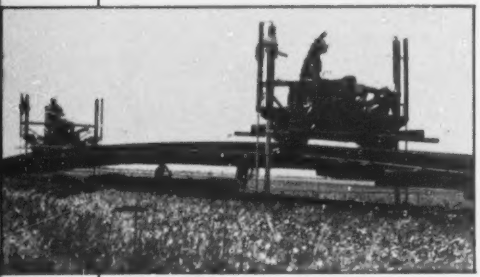
RAILWAY AGE
...for the *new* age of railways



Cover: Burlington Northern intermodal terminal serving the Seattle, Wash., area. *Page 43.*



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The advent of new types of railcars and new terminal concepts is making it imperative that terminals be designed and equipped for top efficiency.

49 The good-track roads: Seaboard System

Despite severely reduced traffic levels, the Seaboard this year is staying the course with a substantial track maintenance program.

57 RPI at 75: "Staunch and constant allies"

In its Diamond Anniversary year, the Railway Progress Institute looks back on a fruitful past—and prepares for tomorrow's challenges.

72 Settegast gets set for busier days

Modernized and expanded at a cost of $17 million, this Houston flat yard is ready to handle more cars faster and more efficiently.

75 Specialization pays off

Thrall finds that there is a demand for small lots of specialized cars even in depressed times, and is keeping its lines open.

78 For Montreal, a "surface metro"

New intermediate-capacity lines, using existing rights-of-way and conventional equipment, will augment the existing rubber-tired system.

82 The Slammer: It works

So far, says supplier Farr Co., locomotives equipped with the engine-shutoff devices have saved an estimated $180,000 in repair costs.

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Inside

An enduring act of friendship

LUTHER S. MILLER

In 1908—a year when the railroads were reeling from the slings and arrows of outrageous transportation policy (and the effects of the panic of '07)—*Railway Age* joined 64 other railway supply companies in a crisis meeting at the Waldorf-Astoria Hotel. "At this critical juncture, our railroads need friends," intoned the evening's principal speaker, George A. Post of the Standard Coupler Co. As a result of that meeting, there came into being the Railway Business Association (subsequently to become known as the Railway Progress Institute). Just how important this act of friendship has turned out to be to railroads over the last 75 years is the subject of a special report in this issue (p. 57).

In 1983, there exists a situation somewhat similar to that which existed in 1908—only this time, it's the railway supply industry that is reeling from misfortune. At this critical juncture, it may fairly be observed, our railway suppliers need friends.

Filling an information gap

The Transportation Association of America went out of business on March 31, a victim of the Great Recession of the '80s. Many people knew the TAA mainly for the eminently useful booklet. "Transportation Facts & Trends," which it published in 17 editions. That booklet, it turns out, still lives, in a reincarnation. Two former TAA officers—Frank A. Smith, who was senior vice president, and Willis W. Bixby, who was vice president-policy development—have formed a new consulting firm, Transportation Policy Associates. The new company's first order of business has been to publish a 46-page booklet, "Transportation in America," which contains multi-modal statistical data on a comparable basis—very much like the old TAA compilation (of which Mr. Smith happened to be the editor). The new publication, which contains data obtained from a wide variety of sources (trade associations, government agencies, a number of private companies), is available for $25 from Transportation Policy Associates at P.O. Box 33633, Farragut Station, Washington, D.C. 20033. Mostly, the information in this book extends only through 1981, due to the time lag necessarily involved in compiling such data. The authors say they plan to give subscribers "supplements and updates" in July and November of this year.

Market Outlook

Equipment

Burlington Northern: Ordered 100 intermodal platforms from ACF—10 eight-platform units and 4 five-platform units. Delivery of the articulated lightweight skeleton cars will begin in August. BN also ordered 460 piggyback trailers, 45 feet long and eight feet, six inches wide—230 from Brae and 230 from Theurer.

Long Island: Awarded a $4.8-million contract to Coach and Car Equipment Co. of Elk Grove Village, Ill., for the design and supply of new seats for 170 diesel-hauled coaches that are being refurbished. A prototype seat, similar to those on the newer M-1 electric cars, is to be produced within three months.

New York City Transit Authority: Safety Electrical Equipment Corp. has been awarded a contract valued at almost $20 million by Bombardier for 825 sets of air conditioning units. The units will be installed in the IRT R-62 cars Bombardier is building for NYCTA.

- The Urban Mass Transportation Administration has awarded a $67,000 R&D grant to NYCTA for a year-long test of 72 transit car wheels using four types of damping mechanisms to reduce screech noise and vibration. Two of the mechanisms under test are being supplied by Soundcoat Co. of Brooklyn; one by Sumitomo Metal America Inc., Japan; and one by Krupp of Germany.

Texas Industries: Placed an order with Portec's Railcar Division for 42 3,200-cu-ft-capacity covered hopper cement cars. The cars will be used in captive service between Texas Industries' cement plant in Hunter, Tex., and a new distribution center in Katy, Tex. A Portec spokesman said the order reflects "an apparent upturn in the economy which has recently led to an increased level of formal and informal inquiries from railroads and shippers."

Freight cars and locomotives

DELIVERED

	February		January	Two months	
	1983	1982	1983	1983	1982
Built new by carbuilders	411	1,526	440	851	3,359
Built new in RR shops	36	236	54	90	398
Built new—total	447	1,762	494	941	3,757
Rebuilt	0	124	0	0	234
TOTAL DELIVERED..........	**447**	**1,886**	**494**	**941**	**3,991**
Locomotives (new and rebuilt)	26	80	10	36	94

ORDERED

	February		January	Two months	
	1983	1982	1983	1983	1982
To be built new by carbuilders	297	753	501	798	1,568
To be built new in RR shops.	2	0	0	2	0
To be built new—total.........	299	753	501	800	1,568
To be rebuilt	0	0	0	0	0
TOTAL ORDERED	**299**	**753**	**501**	**800**	**1,568**

ON ORDER AND UNDELIVERED

	March 1		February 1	Average Backlog	
	1983	1982	1983	1983	1982
To be built new by carbuilders	4,041	12,218	4,155	4,098	12,724
To be built new in RR shops.	112	1,268	146	129	1,386
To be built new—total.........	4,153	13,486	4,301	4,227	14,110
To be rebuilt	0	666	0	0	728
TOTAL ON ORDER	**4,153**	**14,152**	**4,301**	**4,227**	**14,838**
Locomotives (new and rebuilt)	17	219	30	24	227

Facilities

Boston & Maine/Delaware & Hudson: Applied jointly to the FRA for permission to install a traffic control system between Noonans, N.Y., and Mechanicville West Interlocking, 3.2 miles—part of a plan to consolidate B&M and D&H facilities in the area.

Burlington Northern: Applied to the FRA for permission to install a traffic control system between Macon, Mo., and Brookfield, Mo., 33 miles; and between Napier, Mo., and Table Rock, Neb., 46 miles.

Greater Cleveland Regional Transit Authority: Awarded a $3.7-million contract to General Railway Signal for signaling a central storage yard and maintenance facility. Train movements in the yard, and to and from connecting lines, will be directed by a GRS microprocessor system. GRS will also supply electric switch machines, color-light signals, wired electronic equipment housings and a train dispatcher's control console. The project is to be completed in mid-1984.

Metro Canada Limited: Awarded an $8-million (Canadian) contract to SEL Canada, a division of ITT Industries of Canada Ltd., for an automatic control system that will be part of the Central Automated Transit System (CATS) that Metro Canada is supplying to Detroit, Mich. Metro Canada is a wholly-owned subsidiary of the Province of Ontario's Urban Transportation Development Corp. The SEL Canada control system—called SELTRAC—is also being supplied to Vancouver, under a $25-million contract, for that city's ALRT (Advanced Light Rail Transit) system; and to Toronto, for an undetermined amount, for the new Scarborough RT (rapid transit) system.

Market Indicators

DRI Railroad Industry Monitor

Key economic indicators continue to reveal the uneven nature of the current recovery.

On the positive side, real GNP is projected to grow at a 3.5% rate during the second quarter and housing starts are expected to stabilize at a healthy 1.5 million unit rate following a strong first quarter surge.

On the negative side, Data Resources expects retail car sales to remain relatively weak in the second quarter and the recovery in industrial production to be painfully slow.

(Annualized rates, by quarter)

	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Economic Indicators						
Real GNP (% change)	−5.1	2.1	0.7	−1.0	4.0	3.5
Industrial Production (1967 = 1.0)	1.42	1.39	1.38	1.35	1.37	1.40
Housing Starts (mil. units)	0.90	0.95	1.12	1.26	1.68	1.51
Retail Car Sales (mil. units)	8.0	7.5	7.8	8.7	8.3	8.4
Total Class I Rail Traffic (millions of tons)	329.4	334.2	302.7	292.1	294.8	329.4
Key Commodities						
Grain	32.3	30.1	30.7	29.5	32.9	32,5
Coal	134.4	145.1	126.5	121.5	114.9	127.9
Pulp & Paper	9.4	9.0	8.5	8.4	8.5	8.7
Chemicals	24.1	23.0	21.3	21.0	24.5	24.6
Motor Vehicles	3.9	4.9	3.9	3.6	4.8	5.6

Source: Data Resources, Inc., Apr. 14, 1983

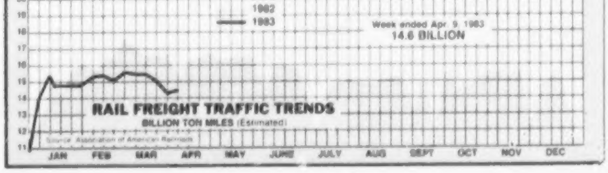
Revenue freight carloadings

Commodity	April 9 week	% change from 1982	April 2 week	% change from 1982	Mar. 26 week	% change from 1982	Mar. 19 week	% change from 1982	Mar. 12 week	% change from 1982
Grain	21,241	(14.7)	20,691	(25.3)	23,688	(11.7)	26,368	2.7	27,234	1.8
Other farm products	2,638	(2.2)	2,885	(10.1)	3,082	(9.8)	3,418	(0.8)	2,991	(17.6)
Metallic ores	14,372	(25.7)	11,985	(42.1)	11,990	(39.7)	12,038	(40.7)	11,101	(33.1)
Coal	96,110	(15.3)	85,960	(24.9)	94,023	(23.5)	99,293	(17.8)	99,558	(18.0)
Crushed stone, gravel & sand	9,016	(0.2)	7,835	(19.0)	8,275	(13.8)	8,397	(15.3)	8,100	(17.7)
Nonmetallic minerals	10,790	18.8	9,131	(12.3)	10,506	(2.1)	11,926	(1.8)	10,821	(6.3)
Grain mill products	10,561	(4.0)	10,923	(12.9)	11,668	(7.2)	11,533	(10.1)	11,930	(5.2)
Food & kindred products	11,786	1.1	11,169	(18.2)	11,871	(15.7)	12,204	(11.8)	12,199	(13.1)
Primary forest products	14,055	(5.1)	14,526	(7.7)	14,246	(11.2)	14,922	(13.3)	14,789	(14.6)
Lumber & wood products (except furniture)	6,562	16.5	7,021	9.8	7,563	18.1	7,319	20.1	7,069	23.5
Pulp, paper & allied products	14,705	(6.3)	15,668	(11.6)	15,497	(13.1)	15,441	(10.7)	15,135	(11.5)
Chemicals & allied products	22,506	5.3	22,751	(5.6)	23,697	(1.8)	23,586	0.8	24,991	3.6
Petroleum products	4,378	0.8	3,967	(16.3)	4,148	(11.4)	4,511	0.4	4,648	(0.6)
Stone, clay & glass products	9,477	2.5	9,394	(11.5)	9,280	(11.7)	9,593	(4.3)	9,451	(10.3)
Coke	4,659	(9.4)	4,767	(11.1)	5,182	(2.2)	4,875	(4.1)	4,947	(6.5)
Metals & products	8,625	(7.7)	9,038	(24.9)	9,097	(22.4)	8,967	(18.8)	8,919	(18.7)
Motor vehicles & equipment	15,250	17.2	15,589	0.0	16,563	8.5	16,714	5.7	16,430	3.7
Waste & scrap materials	7,758	1.3	7,594	(12.0)	8,134	(7.8)	8,485	(8.6)	8,468	(11.9)
Forwarder & shipper assn. traffic	7,962	(2.5)	8,664	(12.2)	8,753	(8.7)	8,817	(4.3)	9,050	(5.7)
All other carloads	45,390	15.8	49,075	11.6	49,708	12.3	48,431	12.3	48,014	11.0
LCL traffic	204	(84.7)	213	(84.6)	228	(85.0)	255	(82.7)	261	(81.3)
Total Cars Loaded	**338,045**	**(5.1)**	**328,816**	**(15.3)**	**347,199**	**(12.4)**	**357,093**	**(9.0)**	**356,106**	**(9.1)**

Estimated revenue ton-miles (billions)	**1983**	**1982**	**% change from 1982**
14 weeks	210.0	222.7	(5.7)

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
Mar. 5	42,523	10.2	72,803	8.0
Mar. 12	42,080	12.4	72,146	12.1
Mar. 19	41,917	13.3	72,770	14.4
Mar. 26	42,988	13.8	72,770	13.7
Apr. 2	41,886	10.2	72,060	11.8
Cumulative total, 13 weeks	539,182	14.9	920,319	12.0



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Watching Washington

"Jobs Bill" will juice up Amtrak and transit budgets

With one quick action Congress has set back some Administration plans to cut spending on transit and Amtrak. The "Jobs Bill," which sailed through both houses of Congress and was immediately signed into law by President Reagan, contains significant amounts of money for those two areas. And the bill also provides some important short term help for the Railroad Unemployment Insurance Account.

BILL FAHRENWALD

The $4.6 billion package provides money for a wide variety of projects that will "meet urgent neglected needs." Transit was judged to be in need of $132.65 million in new funding. Even more important, though, is language in the jobs bill which restores some cuts that had been proposed in FY 83 Urban Mass Transportation Administration spending.

In its annual budget message to Congress, the Administration detailed plans to defer spending $229 million of $779 million in new transit-dedicated gas tax revenues that will be collected this year. Transit interests were outraged at that move, which they considered to be a betrayal of agreements they had reached with the Administration during Congressional action on the gas tax bill late last year. Though action is required in only one house to overturn a budget deferral, action was quickly taken in both the House and Senate to restore the FY 83 funds as part of the jobs package.

The other, new transit funding (totaling $132.65 million) will be distributed in two ways. Urban discretionary grants worth $85.65 million will be made (see table). The remaining $47 million will be given out as interstate transfer grants.

Another rail-related provision of the jobs bill deals with Amtrak. In the face of an FY 84 Administration budget request that is lean on capital funds for the passenger carrier, the $80 million provided for "labor intensive capital improvements" is a welcome boost for Amtrak. Much of the money will be spent in FY 83, but some will spill into FY 84, which starts Oct. 1.

The bill commits $10 million to improvements on the Attleboro-Hyannis, Mass. line (which currently has no Amtrak service) and $2 million to improve two stations in Michigan. The remaining $68 million will be spent by Amtrak to make improvements in the Northeast Corridor.

Most of the money has been designated by Amtrak for projects related to the right-of-way: $16.4 million to purchase and install 150,000 concrete ties, $9 million to purchase and install 50 track miles of cwr; $7.5 million for right of way clean-up; $5 million to paint bridges; $4.3 million for 44 track miles of undercutting; $4 million for right-of-way fencing; $3.3 million to surface interlockings (one of the major remaining sources of rough NEC rides); $2.2 million to paint catenary poles; $2 million for 20 miles of track ditching; and a variety of lesser projects.

The ailing Railroad Unemployment Account was also given some help through a provision to extend benefits by up to 50 days for those workers with less than 10 years of service. Normally these employees are entitled to 26 weeks of benefits. The enrollment period for these extended benefits runs through June 30. Congress was spurred to this action by a precipitous drop in railroad employment that has accompanied the recession.

Reprieve for 403(b)?

Separate action in Congress has once again shown the substantial political support Amtrak enjoys. Rep. Vic Fazio (D-Calif.) has gathered 51 of his colleagues to support a resolution which disapproves the Administration's plan to end all federal money to match state grants for selected Amtrak trains.

Amtrak service in California is particularly threatened because the new state administration already is planning to significantly cut its support for intercity trains. In all, 50 trains in eight states would be jeopardized if the Reagan Administration succeeds in eliminating $25 million programmed for 403(b) service in FY 84.

Transit systems chosen for Urban discretionary grants

Buffalo, NY: LaSalle Street Station	$19,000,000
Dade County, Fla.:	
Northeast bus facility	15,000,000
Metrorail parking	18,800,000
Hartford, Conn.: New bus maintenance facility	6,000,000
SEPTA, Pennsylvania	8,200,000
San Francisco, Calif.	2,300,000
Boston, Mass.	4,350,000
Long Island Railroad, N.Y.:	
Major improvement and electrification extension	8,000,000
Unallocated	4,000,000
Total	**85,650,000**

Lines on Labor

Union discipline: Rules are rules —but are they?

In the railroad industry, "discipline" is a word usually associated with action taken by a carrier against an employee who has sinned, by violating a rule or something of that sort. Lately, though, "discipline" in another form has been getting closer attention, mainly because the Brotherhood of Locomotive Engineers expelled some members for working during last September's BLE strike. The numbers are not large. As of a few weeks ago, six members had been kicked out and "forever barred from readmittance" and a case was pending against a seventh engineer. And the union's right to take such action can hardly be questioned. Most if not all labor organizations retain the right to discipline members who refuse to participate in a legal strike. But the ramifications of expulsion are interesting, in a murky sort of way.

GUS WELTY

First off, under the union shop agreement, does a railroad have to fire an employee who has been booted out of his union? And what does the discipline really mean to the expellee? And how about the right of Union A to discipline its members for crossing Union B's picket lines? Starting at the top:

—The union shop agreement does not require an employee to become or remain a member of the labor organization if membership isn't available to him under the same terms and conditions that are generally applicable to any other member. Further, there is no violation of the agreement if a union member's membership is terminated for any reason other than his failure to pay union dues, fees and assessments. Therefore, the railroad doesn't have to fire an employee for refusing to honor a strike.

—That being the case—and this is where things begin to be touched with irony—nothing much really happens to the expelled union member. He can go on working, with the same wages and benefits, and his net income may even increase. Reason: No longer is he paying union dues, fees and assessments.

—Then there's the matter of Union A taking action against its members for not honoring Union B's picket lines. The BLE says that this has happened, in the aftermath of last fall's strike, although it doesn't identify the other unions involved. And this, frankly, is one of the murkiest ramifications around. Solidarity is the unwritten law of organized labor, of course. But unions have to be rather careful about how this "law" is to be interpreted. The Brotherhood of Railroad Signalmen, for example, merely has a policy of "support" for members if they decline to work during another union's strike. On the other hand, the United Transportation Union's constitution is specific: UTU, like BRS, will back its members if they refuse to work—but the decision to cross or not to cross a picket line is clearly spelled out as the individual's decision; his personal safety is the main factor involved.

"Honor, integrity"? How about freedom?

Actually, the numbers as to the frequency and severity of union discipline in such cases are hard to get a handle on. But the impression is that the trial-and-expulsion actions taken within the BLE are more the exception than the rule. For its part, the Engineers' leadership said the actions had to be taken, "to preserve the honor and integrity of the union," as well as to respect the "loyalty" of those members who did participate in the walkout. And so, perhaps, all well and good! The scabs deserved what they got—"scabs" being that nasty word reserved for application to folk who don't always look for the union label.

Still, this particular set of actions somehow leaves a bad taste. Possibly, that's because the BLE strike of 1983 was over an issue which some observers saw as more important to the BLE's pride than to anything else. Those were the observers who wondered if today's breed of engineer really wanted to strike over the issue that was chosen to strike over.

And whatever really happened to the right of freedom of expression?

Class 1 railroad employment

Employee Group	No. of employees, mid-month count March 1983	Percent of change March 1983 from March 1982	Percent of change March 1983 from February 1983
Total-all Employees	322,085	d 12.79	d .63
Executives, officials and staff assistants	15,058	d 13.65	d .33
Professional, clerical and general	71,442	d 10.54	i 3.58
Maintenance of way and structures	57,419	d 24.33	i 1.10
Maintenance of equipment and stores	60,895	d 13.48	d .20
Transportation (other than train, engine and yard)	15,644	d 16.30	d .68
Transportation (yardmaster, switchtenders, and hostlers)	5,994	d 15.69	i .54
Transportation (train and engine service)	95,633	d 16.04	i .86

Source: ICC

Update

ICC acts to improve car utilization

Railroad car utilization has been the subject of several recent actions by the Interstate Commerce Commission. The agency has proposed to postpone any increase in car hire charges until the end of this year; it has published a model agreement for parties involved in renegotiating tank car allowances; and it says it may issue an exemption permitting the use of surplus equipment to store various commodities.

In its proposal to postpone the 1982 car hire charge update (ex parte 334) the ICC was reacting to a railroad request. Because the current per diem formulas could result in car hire rate increases of up to 25%, the railroads predicted that further acquisitions of freight cars might be encouraged. Since there is no transportation demand for additional equipment the result could be an increase in empty car miles, forcing some railroads to raise rates which could cause a diversion of rail traffic to other modes.

The ICC answered the railroads' concern with a proposal to postpone this year's adjustment in car hire rates. The Commission also urged railroads to quickly seek changes in the per diem formula. "Our objective," the Commission said, "is to ensure that if regulation of per diem continues to be necessary to further the public interest, it is as market oriented as possible."

Charges for the use of tank cars were the subject of another decision (ex parte 328). Various parties had asked the Commission for clarification of their antitrust status when renegotiating tank car allowances. Last year the ICC denied a railroad petition to suspend the annual update provision of an agreement governing compensation paid by the railroads to shippers for use of their tank cars. But the ICC allowed negotiations that would change the agreements.

Under the most recent decision, the agency agreed to grant antitrust immunity to the negotiating parties if they formed negotiating associations using a model agreement written by the ICC. That agreement allows joint discussions limited to issues involved in renegotiating tank car allowances. It also grants "cross over immunity" to allow discussions between the associations. Meetings of the associations are to be open to members and "other interested shippers and non-carrier owners or lessors of tank cars who are parties to ex parte 328, but who are not members."

Another car related proposal resulted from an ICC ruling that allows Norfolk & Western to lease covered hoppers for grain storage. In its decision to allow NW's leasing (ex parte 346 sub. 12) the Commission also said that it will propose to exempt storage leases for all surplus equipment for all carriers.

The black-ink roads: How they rank

Thirty-three railroads fell into the Class I category last year—and 18 of these showed a return on investment. This is how they ranked:

Railroad	1982 Return on Investment
Norfolk & Western	8.12%
Clinchfield	7.96%
Kansas City Southern	7.25%
Missouri-Kansas-Texas	7.03%
Missouri Pacific	6.32%
Chesapeake & Ohio	5.85%
Western Maryland	5.74%
Southern	5.58%
Louisville & Nashville	4.88%
Denver & Rio Grande Western	4.70%
Burlington Northern	4.43%
Union Pacific	4.40%
Cotton Belt	4.28%
Soo Line	2.98%
Elgin, Joliet & Eastern	2.67%
Florida East Coast	2.67%
Santa Fe	2.65%
Seaboard Coast Line	1.39%

Railroads keep a wary watch on antitrust

Railroads are watching with increasing concern for actions that could violate antitrust laws in the wake of deregulation. The industry is newly vulnerable to the heavy penalties that can be imposed. And because railroads had enjoyed immunity for so long under regulation, there is uncertainty over what is permitted under the Staggers Act.

Railroads that either willfully or out of ignorance commit a breach of antitrust law face penalties three times the amount of damages caused by the violation, and they can be fined up to $1 million for each violation. In addition, individuals involved can be jailed for up to three years.

The Reagan Administration has proposed a change in the law that would relax the financial penalties under some circumstances. Through a revision in the Clayton Act, the ability of private parties to sue would be limited to claims for the actual damages suffered, rather than treble damages. An exception would apply for acts which are "plainly anticompetitive" and which would be "illegal without elaborate study in each individual case." Those violations would still be subject to treble damages.

Despite that restriction, this proposal could still be significant to railroads. Most antitrust lawsuits are initiated by private parties because of the potential to collect treble damages, according to James A. Calderwood, an antitrust lawyer who has recently launched a new publication about transportation and antitrust. The monthly newsletter is called "Transportation Antitrust Report."

Calderwood says that the Administration's proposed revision in the law could reduce civil antitrust suits against railroads. Civil suits are the most common form of antitrust action, and many of them would not be eligible for treble damages under the Reagan plan. The incentive to file such suits, with only a prospect of receiving actual damages, would be reduced.

Potential litigants would be particularly affected by this because the type of companies that now file antitrust suits are frequently in need of the highest possible damage award. "Everybody who is going out of business likes to look for someone to sue," Calderwood says. A failing company might not have the resources to launch an expensive lawsuit, but by promising to split the potentially large damage awards with lawyers, nearly bankrupt companies today can afford such actions. Take away the treble damages, though, and a number of those suits might not be filed.

Chairmen of the Senate and House Judiciary Committees are reportedly interested in the Reagan proposal. But an aide to the Senate committee doubts that action will be quick in Congress.

Crane defends rate and route actions

Recent Conrail actions involving joint rates, gateways, and reciprocal switching have caused consternation in both railroad and shipping circles. In an April 7 address at Syracuse University, where he accepted the Salzberg Memorial Medallion, CR Chairman and Chief Executive Officer L. Stanley Crane vigorously defended the railroad's course. Some excerpts from his comments:

"In the past, ICC regulations of joint rates, coupled with cartel pricing carried out through rate associations, actually restrained competition and kept many rates artificially high. In practice, for a given shipment, the same joint rate applied to many routes, which meant that the joint rate level generally covered the cost of the least efficient—and most costly—route. Shippers had no price incentive to use the least costly routes: It would cost the same amount to send a shipment from Seattle to New York whether it was routed via Chicago or El Paso. Railroads were fearful of adjusting rates to meet competition even by way of the most efficient routes, because tariff rules made the lowest combination of rates automatically apply to all routes.

"In addition, regulatory constraints held reciprocal switching charges at artificially low rates, sometimes below variable cost. As a result, revenues from line hauls often subsidized those below-cost local switching movements.

"Meanwhile, the ability of carriers to rapidly adjust to modal competitors was constrained by long and short-haul regulations.

"As the Staggers Act has been interpreted by the ICC and the courts, new bounds of competition have emerged. Carriers' rights to limit joint rates have been affirmed. Increased efficiency has been encouraged through elimination of redundant routings. Many railroads have generated large operating savings and have been able to reduce single-line rates through elimination of inefficient gateways and unnecessary circuity and interchanges. In the last analysis, these route closings do not diminish competition because they do no more than require shippers to deal with a carrier that they were compelled to deal with anyway. Where both origin and destination had competitive service before joint rates cancellations, competitive service remained afterwards.

"In addition, switching services are being made to stand on their own feet. Recent ICC willingness to condone selected reciprocal switching cancellations has signaled its willingness to provide a service carrier with leverage to compete by way of an efficient route, or to achieve revenue adequacy as a switching carrier.

> ***"We intend to become the low-cost carrier in the markets we serve. We intend not to drive a single car to a competing mode...."***
>
> **L. Stanley Crane**

"Where does this all lead? Conrail does not control the answer. However, we do intend to become the low cost carrier in the markets we serve. We intend not to drive a single car to a competing mode, and we are committed to providing efficient local services to all of our customers, regardless of whether or not they use our long-haul service. And we have acted to continue joint line rates in effect between numerous points where our shippers faced cost increases or service deterioration.

"It does the railroads no good at all to price the transportation of any product in a manner that would harm our customers' ability to compete in their markets. But shippers must also realize that when there is insufficient traffic, you cannot have competition and lower prices too. Our interest is to build business. We cannot afford to lose customers any more than we can afford not to earn a profit.

"The marketplace will seek that mode which can serve it best at the best price; it will reward efficiency and eliminate waste."

Conrail and other roads: A comparison

In a report to Congress, the United States Railway Association called Conrail's progress "encouraging." In a five year comparison with 10 more successful railroads, Conrail received "generally high marks," for the progress it had made between 1977 and 1981. Performance in 1982 is believed to have continued to improve, according to USRA, which will release a more detailed study of last year's results on June 1. That study will affect a decision to sell Conrail whole or in parts during the coming year.

Though the USRA comparison found that Conrail had made good progress, it also found that the carrier continued to lag behind the other railroads.

"In the simplest terms," the report says, "Conrail lacked not only the streamlined plant and long hauls of the West roads, but also the coal share and growth of its East competitors. In light of these characteristics, it should not be surprising that Conrail had poorer operating margins than either the East or other regions during the period examined."

The most important improvement Conrail can continue to make is cost reduction, USRA says. "Achieving more competitive costs will require reducing the workforce size in relation to production volume."

1981 Freight Operating Expense Per Unit of Traffic

	Per Revenue Ton		Per Carload		Per Revenue Ton Mile[1]		Per Loaded Car-Mile	
	$	Index	$	Index	$	Index	$	Index
Conrail	16.02	100	930	100	45.00	100	2.53	100
East[2]	9.57	60	667	72	32.50	72	2.15	85
South	8.48	53	573	62	29.50	66	1.85	73
West	16.86	105	1,085	117	28.90	64	1.71	68
Industry[2]	11.89	74	795	86	29.80	66	1.83	72

[1] Denominator in thousands.

[2] Excluding Conrail.

Source: USRA

A bum rap for rapid transit?

June 1983

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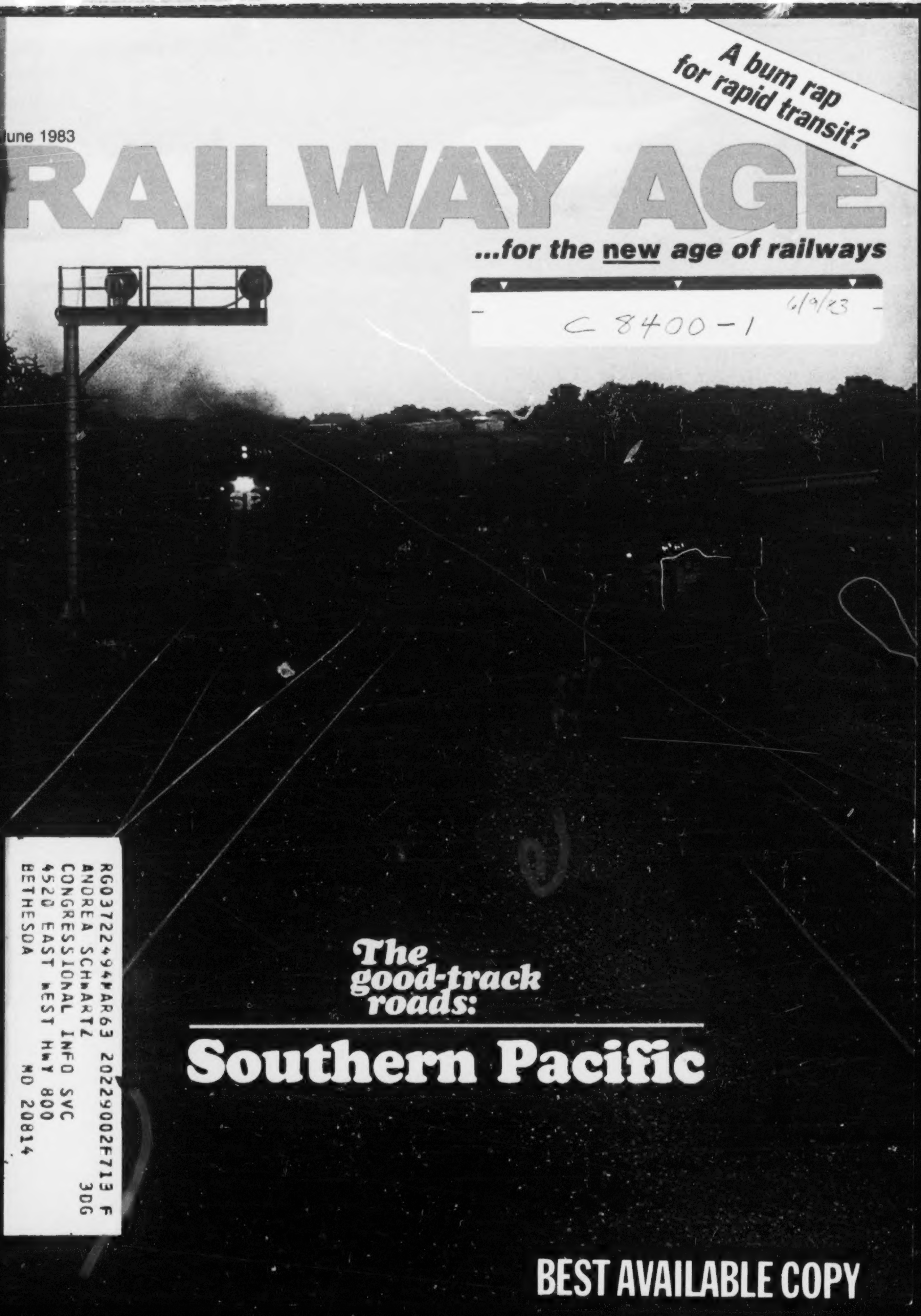

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The good-track roads:

Southern Pacific

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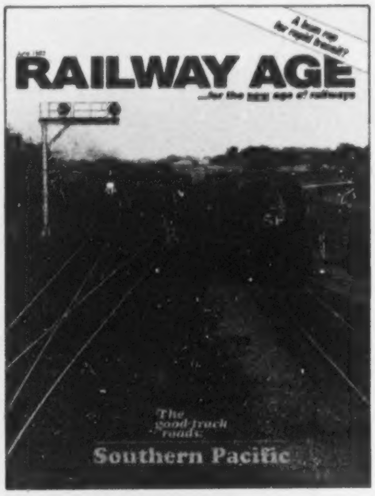
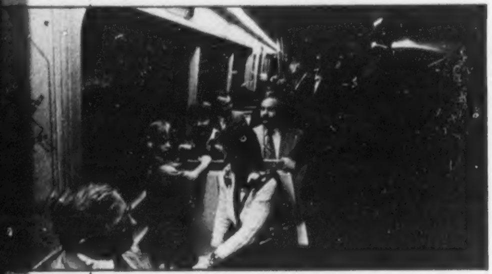


RAILWAY AGE
...for the new age of railways
A bum rap for rapid transit?
The good-track roads:
Southern Pacific

Cover: Westbound piggyback passes a grain train on Southern Pacific main line near Harwood, Tex. Photograph by Frank Malone. *Page 37.*



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Increased investment in fixed plant is part of a broad-ranging effort to make SP more competitive for service-sensitive traffic.

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Railroads last year continued to hold the ratio of payout to revenue at a low level. But in some areas trouble spots began to appear.

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Shippers surveyed by *Railway Age* say it will take more than attractive rate packages to cause them to switch carriers.

64 A bum rap for rapid transit?

There's less to that anti-transit analysis of the U.S. Census Bureau than meets the eye, suggest transit-industry experts.

67 NYCTA: A big plan gets bigger

With the five-year capital program now up to $6.4 billion, a slice of the Big Apple pie is more attractive than ever to suppliers.

71 $3 billion for light rail?

That's what a new agency, Dallas Area Rapid Transit, has in mind. A sales and use tax would finance the proposed 160-mile system.

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Inside

The Times that tries men's souls

LUTHER S. MILLER

It would be an overstatement to call *The New York Times* Public Transit Enemy No. 1—but it is a fact that this prestigious and mostly excellent newspaper has been giving considerable aid and comfort to those elements in our automobilist society who seize every available weapon to savage mass transit.

The U.S. Census Bureau gave the anti-transit faction such a weapon with its recent release of an analysis suggesting that, because worker use of transit had declined on a "nation-wide" basis during the last decade, the whole notion of public transportation had come under a cloud. This analysis was full of holes and distortions that people close to the scene were able quickly to identify (see Associate Editor Bill Fahrenwald's "A bum rap for transit?", p. 64). But it is a truism in the journalism trade that too much checking can spoil a good story, and *The Times* plunged ahead with a three-column, page-one account of the damaging implications of the Census Bureau's findings.

Not long thereafter, *The Times* published a piece describing questions that certain Houston interests had raised about that city's rapid transit plans. This story repeated the Census Bureau's faulty findings (though they were not so labeled) and went an astonishing step further. *The Times* found a consultant who said that in Washington, D.C., which has invested heavily in a new rail system, transit ridership has slipped during the last decade.

Now *that* will be news even to the Census Bureau, whose own figures (p. 65) show an 18.5% increase in the use of transit by Washington area workers during the 1970-1980 period.

O tempore, O mores!

Railroading's 2,800

From "Aadnesen, Christopher, Western Division Superintendent, Western Pacific" to "Zydor, Heinz P., Senior Engineer Mechanical Facilities, Chessie System Railroads," the 19th edition of *Who's Who in Railroading and Rail Transit* offers biographical sketches of some 2,800 people who keep the wheels of railroads turning. Handsomely bound in blue and gold, and clearly printed on good paper, this 408-page compendium is a must for the complete railroad bookshelf. It is available for $49.50 from the National Railway Publication Co. (424 W. 33rd St., New York, N.Y. 10001), which recently acquired the rights from the Simmons-Boardman Publishing Co.

Market Outlook

Facilities

Conrail: A $5.5-million West Virginia Secondary track improvement project includes installation of 42 miles of cwr and 12,000 crossties, surfacing of 60 pass miles, and rehabilitation of 50 public and 73 private grade crossings.

Union Pacific: Work is well under way on rehabilitation of Western Pacific track, with about $45 million to be spent this year as part of a multi-year program which will cost upwards of $90 million. The 1983 part of the project will include installation of 122 miles of new mainline rail as well as installation of 16 miles of curve relay and eight miles of relay rail on branches, insertion of 135,000 new crossties, stabilization of roadbed along 64 miles of line, and about 500 miles of surfacing and lining. The goal: To raise WP track to UP mainline standards, now that the former WP is being run as an operating district of UP.

Freight cars and locomotives

DELIVERED

	March		February	Three months	
	1983	1982	1983	1983	1982
Built new by carbuilders	334	2,032	411	1,185	5,391
Built new in RR shops	110	215	36	200	613
Built new—total	444	2,247	447	1,385	6,004
Rebuilt	0	148	0	0	382
TOTAL DELIVERED	**444**	**2,395**	**447**	**1,385**	**6,386**
Locomotives (new and rebuilt)	26	34	26	62	128

ORDERED

	March 1983	March 1982	February 1983	Three months 1983	Three months 1982
To be built new by carbuilders	207	1,485	297	1,005	3,053
To be built new in RR shops	0	0	2	2	0
To be built new—total	207	1,485	299	1,007	3,053
To be rebuilt	0	0	0	0	0
TOTAL ORDERED	**207**	**1,485**	**299**	**1,007**	**3,053**

ON ORDER AND UNDELIVERED

	April 1		March 1	Average Backlog	
	1983	1982	1983	1983	1982
To be built new by carbuilders	3,914	11,546	4,041	4,037	12,332
To be built new in RR shops	2	1,053	112	86	1,275
To be built new—total	3,916	12,599	4,153	4,123	13,607
To be rebuilt	3,916	518	0	0	658
TOTAL ON ORDER	**3,916**	**13,117**	**4,153**	**4,123**	**14,265**
Locomotives (new and rebuilt)	134	185	17	60	212

Equipment

Bay Area Rapid Transit: Westinghouse Electric will supply solid-state chopper propulsion, brakes, and pneumatic equipment for 150 cars that Soferval of France is building for BART.

Burlington Northern: Ordered 100 89-ft flatcars from Berwick Forge & Fabricating for hauling rail in long lengths. Another 100 cars may be in BN's 1984 budget.

Illinois Power Co.: Awarded a contract to Portec's Railcar Division for repairs and modifications to 70 100-ton open-top hopper cars. Portec will refurbish the cars and line the interior of side and floor sheets with stainless steel.

New York City Transit Authority: GSI/Buckeye trucks are to be installed on 825 cars that Bombardier has contracted to supply to NYCTA. GSI Engineering, a division of Lukens General Industries, will provide design and specialized technical services; Buckeye Steel Castings, a division of Worthington Industries, will supply castings. The contract is valued at more than $46 million.

- NYCTA has awarded a contract to Nab Construction Corp. and its subsidiary, New York Rail Car Corp., for design and construction of three new pump cars to replace equipment built in 1932. The cars will be equipped with four-inch pumps capable of displacing 2,000 to 4,000 gallons per minute.

Santa Clara County Transit District: Metro Canada Ltd. is the apparent low bidder for the supply of 30 articulated light rail vehicles. MCL's bid of $29.8 million was 13% below the engineer's estimate. Other bidders included: Kinki Sharyo Co. ($31 million); Siemens-Allis, Inc. ($36.3 million); and the Budd Co. ($44.4 million). Vehicle delivery is scheduled to begin in July 1986.

Urban Mass Transportation Administration: Made the following grants under its Innovative Techniques and Methods Program: $656,250 to Massachusetts Bay Transportation Authority for conversion of four light rail vehicles to regenerative power; $228,750 to Bay Area Rapid Transit for testing of prototype automatic train control equipment; $187,500 to Chicago Transit Authority for a test installation of 12 turnstiles with magnetic card entry.

Market Indicators

DRI Railroad Industry Monitor

The economy continues to gather strength. The first quarter saw moderate growth in GNP and a sharp increase in housing starts. Now auto sales and steel production are beginning to pick up, and for the second half of 1983 Data Resources expects real GNP to grow at an annual rate exceeding 5%.

Following the pattern of past recoveries, a rebound in rail traffic will lag the economic recovery by three to six months. During the fourth quarter of 1982 and the first quarter of 1983, originated tonnage fell to below 300 million tons. Led by increases in metallic ores, coal, vehicles and parts, and TOFC, rail originations are expected to climb to 308 million tons by the fourth quarter of the year.

What lies beyond 1983? As consumer spending continues to rise and business capital investment begins to increase, the recovery is likely to continue fairly smoothly through 1984.

	(Annualized rates, by quarter)						
	1982:2	1982:3	1982:4	1983:1	1983:2	1983:3	1983:4
Economic Indicators							
Real GNP (% change)	2.1	0.7	-1.0	3.1	3.7	5.4	5.0
Industrial Production (1967 = 1.0)	1.39	1.38	1.35	1.38	1.40	1.43	1.46
Housing Starts (mil. units)	0.95	1.12	1.26	1.69	1.57	1.58	1.62
Retail Car Sales (mil. units)	7.5	7.8	8.7	8.4	8.4	9.0	9.5
Raw Steel Production (mil. tons)	19.6	16.4	14.1	18.4	25.6	25.1	27.2
Total Class I Rail Traffic							
(millions of tons)	334.2	302.7	292.1	295.0	308.0	321.7	336.3
Key Commodities							
Grain	30.0	30.7	29.5	32.6	28.2	29.7	30.3
Coal	145.1	126.5	121.5	115.7	121.9	128.7	139.1
Pulp & Paper	9.1	8.5	8.4	8.5	8.4	8.5	8.8
Chemicals	23.0	21.3	21.0	24.2	23.7	23.1	24.8
Motor Vehicles	4.9	3.9	3.6	4.4	5.4	4.7	5.7

Source: Data Resources, Inc., May 11, 1983

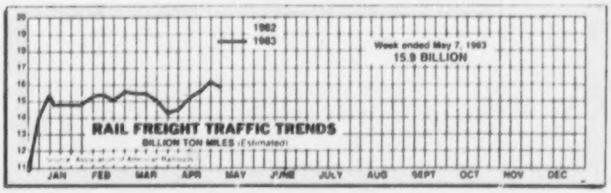
Revenue freight carloadings

Commodity	May 7 week	% change from 1982	Apr. 30 week	% change from 1982	Apr. 23 week	% change from 1982	Apr. 16 week	% change from 1982
Grain	21,813	(8.1)	21,140	(8.1)	22,378	(13.8)	20,765	(14.8)
Other farm products	3,744	(9.1)	3,796	(18.3)	3,556	(17.8)	3,558	17.9
Metallic ores	20,613	8.0	20,379	(2.0)	15,688	(23.1)	15,789	(22.1)
Coal	100,604	(14.8)	98,400	(18.2)	97,783	(16.9)	97,718	(18.9)
Crushed stone, gravel & sand	10,533	3.8	9,798	(0.3)	10,000	(0.5)	9,448	0.5
Nonmetallic minerals	10,329	(1.4)	11,772	2.2	11,564	6.6	12,462	13.3
Grain mill products	11,298	(2.5)	11,287	(7.6)	11,348	(6.1)	12,107	11.3
Food & kindred products	11,802	(11.2)	12,216	(9.2)	12,586	(6.7)	12,154	(3.0)
Primary forest products	15,384	(3.9)	15,400	(1.3)	15,466	1.6	14,758	(9.8)
Lumber & wood products (except furniture)	7,240	23.9	7,737	18.4	7,264	11.4	7,057	19.1
Pulp, paper & allied products	15,128	(9.3)	15,482	(11.7)	14,949	(12.3)	15,330	(6.3)
Chemicals & allied products	23,730	(2.5)	24,763	0.1	22,760	(1.7)	22,088	(5.1)
Petroleum products	4,697	(1.1)	5,169	9.9	4,820	0.2	4,643	(6.1)
Stone, clay & glass products	10,712	6.7	10,627	5.8	10,436	4.1	10,229	1.2
Coke	4,858	(2.7)	4,847	(5.0)	4,760	(8.0)	4,658	(10.3)
Metals & products	8,018	(22.3)	9,820	(16.2)	8,929	(19.2)	8,550	(18.1)
Motor vehicles & equipment	17,906	4.8	17,897	4.1	17,644	2.0	17,554	17.1
Waste & scrap materials	8,191	(3.7)	8,665	(0.7)	8,489	(5.1)	8,723	(2.7)
Forwarder & shipper assn. traffic	8,317	(5.4)	8,574	(4.6)	8,818	(0.4)	8,632	4.4
All other carloads	49,369	16.7	53,330	20.1	49,548	14.1	49,680	22.8
LCL traffic	254	(83.8)	223	(85.6)	253	(84.0)	236	(83.4)
Total Cars Loaded	**364,540**	**(4.5)**	**371,322**	**(5.4)**	**359,039**	**(7.4)**	**356,139**	**(6.0)**

Estimated revenue ton-miles (billions)	**1983**	**1982**	**% change from 1982**
18 weeks	273.0	288.6	(5.4)

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
Apr. 9	38,269	14.2	66,133	7.6
Apr. 16	42,573	25.7	73,952	18.5
Apr. 23	43,472	17.3	74,193	8.5
Apr. 30	45,908	21.9	78,971	14.6
Cumulative total 17 weeks	709,412	16.1	1,213,568	12.1



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Watching Washington

Deregulation: More—or less? A fight brews

In the waning days of the Carter Administration, an end was proposed to restrictions on the creation of multimodal transportation companies. The plan languished. Now the Republicans are taking their turn at knocking down the modal barriers—and, in the process, a great deal of other transportation regulation that remains on the books.

BILL FAHRENWALD

Like the Carter proposal, the new deregulatory push is not likely to meet with immediate success. The Republican plans are complex and controversial—two qualities that are not helpful if you want quick action in Washington.

An initial version of an Administration proposal to deregulate surface transportation has come in the form of draft legislation. Before it is introduced in Congress the plan will likely be broken into separate bills dealing with motor carriers, water carriers and freight forwarders. Another, separate piece of legislation (S. 48) has already been introduced by Sen. Bob Packwood (R-Ore.). His bill is designed to eliminate restrictions on the creation of multimodal transportation companies.

Though the Administration's proposals might not seem to have much direct bearing on railroads, the industry would, in fact, be greatly affected. First, the Administration wants to totally deregulate trucks, barges and freight forwarders. Though the motor carrier industry is unhappy with the effects of its limited deregulation under the Motor Carrier Act of 1980 (see table), the Administration has decided: "The regulation of the trucking industry that currently remains is unneeded and undesirable because there is ample competition." Since competition will intensify if truckers are deregulated, more price cutting can be expected, particularly on traffic that can move in piggyback rail service.

But perhaps more significant is a paradox in the Administration's proposal to deregulate the freight forwarder industry. On the one hand the Administration says it is not proposing further railroad deregulation. And it says it will probably allow Sen. Packwood's bill to stand as the vehicle for changing the laws governing multimodal ownership.

At the same time, though, the Administration proposal to deregulate freight forwarders could, in effect, also further deregulate railroads.

Forwarders would be allowed to own railroads (as well as trucks and water carriers). Would forwarder-owned railroads then, in effect, be deregulated? Forwarders, for instance, would be allowed to abandon services without regulatory approval. Would their railroads be allowed to do the same?

A Senate aide close to the situation thinks that this could be a way to accomplish further rail deregulation via the "back door." But he also takes a pragmatic view of its chances for success.

"If it ain't broke, don't fix it," is the attitude in Congress toward transportation regulation, the aide says. His contact with the transportation industry indicates that it wants to let the new regulatory structure stabilize before Congress launches any more changes. That attitude could shift though, if truckers decide they would be better off without the Interstate Commerce Commission. Then movement could begin toward more surface transportation deregulation. Enactment of new deregulatory laws, in any event, is not likely this year.

"If anything, we are going to raise questions about some of the effects of deregulation," the aide says, referring to shipper complaints about ICC interpretation of the Staggers Act.

Questions are being raised about recent deregulation by such influential figures as Sen. Mark Andrews (R-N.D.), chairman of the Transportation appropriations subcommittee. "The new orientation of federal transportation policy," Andrews says, "seems to be based on the perception that public interest and private profit are wholly consistent...Personally I cannot accept this postulation on faith alone."

Coal exporters are exercising their influence in Congress. Rep. Frederick C. Boucher (R-Va.) says, "Rail costs are our central problem" when promoting coal exports from Virginia. He has joined Rep. Nick Joe Rahall II (D-W.Va.) in sponsoring a bill (H.R. 2548) which would provide the ICC with more stringent guidelines for regulating rates on bulk commodities. Rahall called the ICC's interpretation of the Staggers Act "roguish and irresponsible."

Calls for reregulation are perhaps as unlikely to succeed as the new deregulation plans. In the short term the status quo will likely prevail. But the time is approaching when the forces for and against regulation will again clash.

Declining Motor Carrier Fortunes

Year	Tons (millions)	After Tax Net Income ($ Millions)
1977	170.1	$348.6
1978	177.0	387.1
1979	170.3	258.5
1980	136.4	(151.1)
1981	131.5	264.5
1982	105.5	(22.7)

Source: Regular Common Carrier Conference survey of 184 trucking companies

Lines on Labor

Management, labor, philosophies and "a major thrust"

GUS WELTY

It will be the policy of this railroad, the man said, to maintain relations with the labor organizations in a manner "which is constructive ... effective ... enlightened ... and conducted on the highest ethical level. There is no place in our organization for an officer who is high-handed, unfair or 'sharp' in dealing with the representatives of our employees." Employees and their representatives, the man continued, "do not seek to benefit from an industry which is crushed by burdens it cannot bear. Nor do they expect to benefit from an industry which is stagnant. Just as we do, they want the railroads to grow and prosper—but the railroad employee must be a participant in our growth, not a victim of our prosperity .... We will be committed to the problem-solving technique in labor relations. This will be the cornerstone of our labor relations policy."

The railroad was Burlington Northern. The man was Louis W. Menk, then president of BN. The policy was enunciated in 1970, when Burlington Northern came into being. The thoughts made a lot of sense then, and they may mean even more now. And now, it's a new president—Walter A. Drexel—who is saying such things and perhaps even carrying Lou Menk's philosophy of management a step farther.

Now is the time, Walter Drexel told BN officers not long ago, "to initiate a major thrust toward teamwork and communication—a top-management expression of our corporate culture and management style, a style focused on managing our human assets with the vigor and creativity we've applied to managing our physical assets." To this end, he said, "I intend to devote much of my personal effort in managing the railroad to cause a change in our labor and management relations and to develop that change into a climate of mutual respect for each BN person as an important human being, an important contributor, not just a small cog in a big machine. Fear, intimidation and militaristic styles do not belong in modern management. They have no place in our company. Genuine respect for individuals at all levels will be the cornerstone of our management style."

Walter Drexel is not suggesting that BN adopt some form of permissive management. Rather, he's talking about participatory management, in the all-contribute sense. He thinks that "we have underestimated the capabilities and willingness of labor to accept well-communicated change and to respond in a productive and creative way." What he wants is a company in which "all employees are encouraged to participate in accomplishing our objectives."

And, Walter Drexel said, "We, as managers, must take the first step." Indeed.

If the time isn't now, then maybe it will come too late

There will be those, no doubt, who will scoff at what Drexel is saying, just as there were those who didn't believe what Menk said. There will be those, in both management and labor, who will see no accommodations possible. But you know what? They were wrong in 1970 and they're wrong in 1983. Lou Menk was on the money in '70 and Walter Drexel is on the money in '83.

But, since Drexel felt obliged to say these things, in 1983, maybe Menk was ahead of his time (if you can believe that). Now, if it should prove to be that Walter Drexel is also "ahead of his time," then the railroad industry, its labor organizations and its employees are in a lot of trouble.

And you don't have to be Japanese to know that the winners, the companies that will prevail, will be the companies that do not have endless travail in employer-employee relationships.

In the meantime, it's interesting to note that both Lou Menk and Walter Drexel used the word "cornerstone."

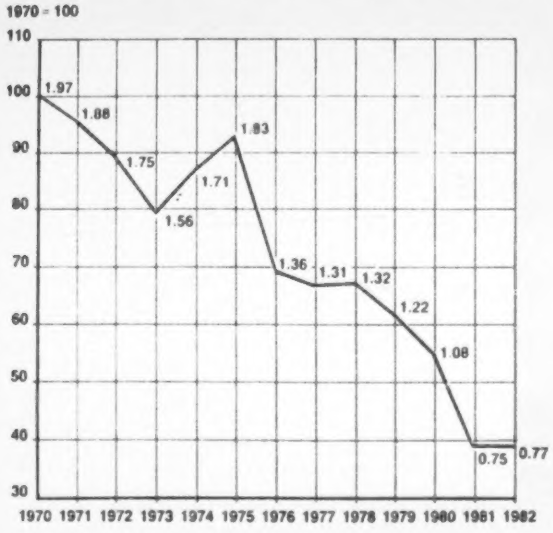
Class 1 railroad employment

Employee Group	No. of employees, mid-month count April 1983	Percent of change April 1983 from April 1982	Percent of change April 1983 from March 1983
Total-all Employees	328,358	d 15.31	i 1.95
Executives, officials and staff assistants	14,949	d 13.45	d .72
Professional, clerical and general	71,335	d 13.38	d .15
Maintenance of way and structures	63,074	d 9.03	i 9.85
Maintenance of equipment and stores	60,492	d 24.44	d .66
Transportation (other than train, engine and yard)	15,757	d 14.49	i .72
Transportation (yardmaster, switchtenders, and hostlers)	6,028	d 16.02	i .57
Transportation (train and engine service)	96,723	d 14.48	i 1.14

Source: ICC

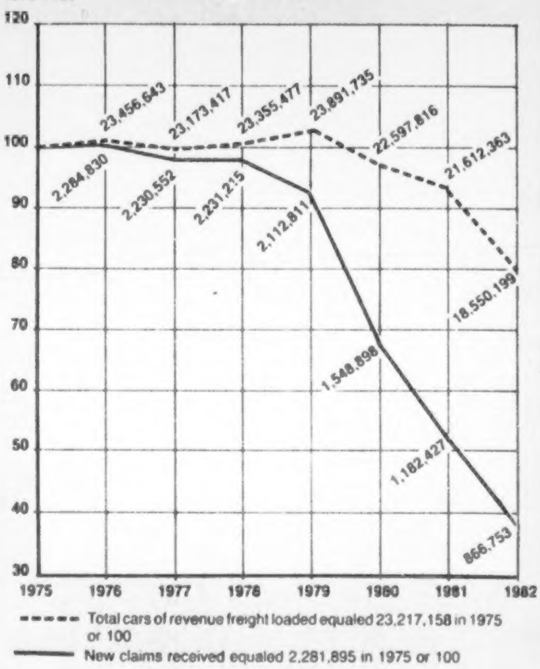
Loss and damage prevention:

Ratio of loss and damage to $100 of freight revenue



Source AAR

Total cars of revenue freight loaded and new claims received 1975 - 1982



Win some, lose some

The good news is that claims and payout generally are down. The bad news is that the L&D problem has worsened in certain areas within the control of railroads.

Railroad freight loss and damage prevention is a sunshine-and-clouds kind of thing.

First, the sunshine:

—L&D payout last year dropped by 9.3%, from $256.8 million in 1981 to $232.9 million in '82. If 1981-82 inflation is taken into account, the decline was 11.1%.

—The number of new claims filed continued to go down. Last year's total, 866,753, compares with 1,182,427 in 1981 and with 2,231,215 in 1978. Last year's total was the lowest on record since the AAR began keeping that particular record.

—The number of new claims entered per 100 cars loaded also fell, to 4.67. As recently as 1975, there were 9.83 claims filed per 100 carloadings.

—Even though the ratio of payout to revenue crept up from 75 cents per $100 to 77 cents, L&D-prevention personnel were still saving the industry money, absolutely and relatively. If the payout ratio had been where it was in 1970, for example, payout would have been almost $600 million instead of $232.9 million.

—Out of 59 commodity groups, payout dropped last year for 39. Out of 12 cause-categories for loss-and-damage, payout dropped for seven.

—L&D-prevention personnel may soon be getting a new total to use in damage-prevention research-and-development work, the Vibration Test Unit at the AAR-operated Transportation Test Center at Pueblo. Use of the VTU simulator would greatly speed up the process of developing and testing better loading methods, while it would also provide more scientific measures of what changes help and what changes don't. The numbers which have been presented to the AAR look good from a cost/benefit standpoint.

But then, the clouds:

—L&D payout increases in 1982 came in categories which, for the most part, are within railroad control (if not exactly within the control of L&D-prevention people). For example, payout caused by train accident was up by 5.1% (even though accidents in total were down). Payout caused by provision of defective equipment was up by 15.6%. Payout caused by employee error was up by 11.1%.

—Deregulation may be leading to the creation of L&D numbers which can be challenged. Worse, deregulation could be leading to creation of what might be called an underground economy for L&D payout and a consequent de-emphasis on L&D prevention. One of the last things railroads need is an increase in hidden costs, but this could happen if L&D-payout liability is buried in contracts that provide, in effect, an L&D deductible with a compensating factor built into the rate. This possibility has L&D-prevention officers a lot more worried than does the two-cent increase in the payout ratio that occurred last year.

- **Where the trouble is.** But, why did railroads pay out almost $233 million because of loss and damage last year? And what L&D causes are going down while others are going up?

—Payout due to shortages of both packaged and bulk shipments were down, by more than 16% in each category.

—Payout in the catch-all category, all damage not otherwise provided for, was down by 17.2%, and this "cause" accounted for a lower percentage of the total, 43.4% in 1982 as compared with 47.6% in 1981. Major declines were recorded here for damage to motor vehicles and to prepared food and similar products.

—In contrast, payout because of defective or unfit equipment rose by 15.6%, with prepared foods, tobacco products and paper and similar products showing the biggest increases. AAR's damage-prevention people will be looking at this one through the data bank to try to determine if a particular type or types of equipment can be blamed.

—Payout due to temperature failure was also up, with one commodity, fresh fruits, accounting for the increase. Here, an ad hoc committee is looking at the situation to determine if it reflects new claims being paid or old ones.

—Claim payout charged to delay-of-shipment dropped by almost 36%, mostly because of better performance in handling potatos and fresh vegetables.

—Despite the economic recession and unemployment, which might ordinarily have been presumed to contribute to an increase in claims due to theft, payout for this cause was actually down, by more than 19%, from $20.5 million in 1981 to $16.6 million last year. On motor vehicles alone, robbery-theft-pilferage dropped by better than 22%. Says Ralph A. Grover, executive director of the AAR Freight Claim and Damage Prevention Division, "The concerted effort by railroads and shippers to prevent loss to this vulnerable commodity has really paid off. Enclosing multi-level cars and continued research into provision of end enclosures for these cars is further proof of this dedication. The police and security sections of the rail carriers are also making major contributions in this battle."

—At the same time, payout due to vandalism last year went up by 14%, with a slight increase in the motor-vehicle category.

—And then there were the claims paid because of train accident, $72.1 million in 1982, a 5.1% increase over the amount paid out in 1981. This is not an easy one to explain, especially since there was a significant drop in payout for motor-vehicle damage due to derailments. Making it even harder to explain are two other facts: First, even though a number of roads cut back on track maintenance spending last year, spending in previous years had been heavy on most major roads, and one year's cutback should not have resulted in significant deterioration; and second, derailments caused by equipment failures should not have contributed in a major way if railroads in recession were storing older equipment and using newer and better equipment.

—As for the commodity analysis, one of the best showings came in motor-vehicle traffic. The $46.7 million paid out in claims was the lowest since 1973. The percentage of auto-traffic claim payout to the total, 20.1%, was the lowest since 1975. And this was not just because the automobile industry had a bad year in 1982: It did, but the railroads did not, since they moved an estimated 60% of domestic autos plus a high volume of imported cars and trucks. AAR's Ralph Grover puts it this way: "Our damage-prevention staff is continuing the auditing of destination motor-vehicle ramps and has, on a selected basis, continued to do origin-ramp audits. Automobile manufacturers and railroads alike continue to support the audit program—and with the payout dropping the way it has been, this comes as no surprise."

- **Carrying on the fight.** But now, what's ahead for loss-and-damage-prevention people at the AAR and on individual railroads?

In light of the record that has been established, L&D prevention efforts should get a further push forward from top managements that recognize the savings—in dollars and in customer good will—which these efforts have produced.

The approaches taken by the AAR and major railroads have worked, especially the national commodity program which started in the late 1960s and really got working in the mid-'70s.

The record on household appliances is one that prevention specialists often point to, showing as it does a reduction of almost 25% in payout over a four-year period after a concerted damage-prevention program began. Household appliances don't even appear on the 1982 priority list, because problems have been solved. On that '82 commodity priority list were 13 categories, covering 19 Standard Transportation Commodity Codes, and payout went down last year on 11 of the STCC numbers. Significantly, top priorities went to programs on motor vehicles, canned fruits and vegetables, mixed shipments of canned goods, grain mill products, miscellaneous food products, machinery (except electrical), pulp, paper and allied products and chemicals and allied products. L&D payout dropped in every commodity class except canned fruits and vegetables and chemicals and allied products.

L&D payout by causes: More are down than up

Cause	Payout	Change, 1981-82
Shortage, packaged shipment	$3,774,171	−16.7%
Shortage, bulk shipment	6,483,359	−16.2
All damage not otherwise provided for	101,253,925	−17.2
Defective or unfit equipment	9,078,334	+15.6
Temperature failures	9,332,998	+10.4
Delay	2,438,761	−35.9
Robbery, theft, pilferage	16,617,143	−19.1
Concealed damage	625,292	−41.5
Train accident	72,184,204	+ 5.1
Fire, marine, catastrophe	5,139,499	−21.5
Error of employee	3,527,551	+11.1
Vandalism	2,526,726	+14.0

One problem with the standard approach to developing and testing improved loading and handling methods is that it's cumbersome. The standard approach involves testing of 25 test loads—and, while that may not seem to be a lot, the testing can be time-consuming: Railroads and their customers can figure on about a year passing before results can be obtained and measured. Another problem has been that results can vary, not always with any explanation that can be validated.

And these are just a couple of reasons why it would make sense for damage-prevention people to be able to use the facilities at Pueblo, especially now that the test center is under AAR management. The time-frame for testing could be compressed down to a matter of weeks, and both the tests and the measurements of them would become more precise. One result would be that AAR publications on loading standards—which are accepted national standards and a basis for damage-prevention efforts—could be issued on a more timely basis, and with their integrity enhanced. As for the economics involved, projections indicate a very big return for a relatively small investment.

- **The dereg factor.** But then, damage-prevention officers are also looking at another kind of economics—the economics of deregulation and rate-contracting.

On the one hand, there is the record: L&D payout going down, the ratio going down (except for the blip in '82), the ratio of claims filed to cars loaded going down. On the other hand, there is the permissiveness of dereg, under which many things can be done that could not be done under strict Interstate Commerce Commission regulation.

Dereg could work this way, to the detriment of L&D-prevention. Let's say that under a contract a customer agrees to a certain deductible, in effect, on L&D claims, and a compensating factor is built into the rate. The number of claims filed goes down. Loss-and-damage payout, per se, goes down. Both customers and railroads can save money in the costs of processing claims.

Under that scenario, both customer and carrier would benefit—except for one thing: If damage and the costs of damage are hidden, there would almost certainly be a tendency for both customers and carriers to cut back on the expenses related to maintaining and improving damage-prevention efforts. Almost inevitably, the follow-up to that would be an increase in damage to lading and in the cost of that damage, reflected in rate trade-offs. Eventually, customers and railroads would realize that something went wrong—but in the meantime, damage-prevention work would have been hampered if not crippled. And that's what damage-prevention specialists are concerned about.

As one of those specialists puts it, "The customer wants his freight delivered in usable form. He doesn't want a hassle with *his* customer, and he doesn't really want a hassle with the carrier. Yes, claims and claim-processing cost money. But the aim shouldn't be just to cut the cost of processing claims. The aim should be to cut the causes of damage. And you can't do this if you have some kind of arrangement that ignores those causes." ■

Worker use of public transit in the Washington, D.C., area increased 18.5% during the past decade—largely due to the introduction of Metrorail.

A bum rap for transit?

U.S. Census Bureau analysts suggest that public transit isn't doing the job it's supposed to do; transit-industry experts suggest that they reexamine and reinterpret their data base.

By BILL FAHRENWALD, Associate Editor

An analysis of figures from the 1980 U.S. Census suggests that transit is failing to keep some of its most important riders—workers traveling to work. But industry and federal transit officials are questioning the validity of the assumptions and the data that back up the analysis.

Clearly, the Census revealed some troubling trends. Between 1970 and 1980, the percentage of workers using transit declined from 9% to 6.4% nationwide, according to the analysis prepared by Philip N. Fulton, chief, journey-to-work and migration statistics branch, population division, U.S. Census Bureau.

The main reason for the decline was the flight away from northeastern central cities where transit is an integral part of the daily commute. Population shifted in two ways: from the central cities to sprawling suburbs and from the Northeast to the West and South. These are areas where, according to the analysis, "historically public transportation has either not been available or where it has not been conveniently accessible."

Put another way, transit has been losing workday riders because it is not meeting their needs. In fact, 75% of workers who commute in a private vehicle said they did not use public transportation because it was in the wrong place (i.e., transit was not available or not convenient). Only 16% said they would prefer to use a car, truck or van to commute.

The problem posed to transit is that people apparently will not necessarily choose a place to live or work based on the availability of transit service. This was made clear during the past decade when population continued to shift away from areas that offer transit to areas that do not.

Among the conclusions reached in the Census study: "Public transportation policies should be formulated in coordination with an anticipation of demographic trends instead of depending on the alteration of such trends in order to achieve success."

- **A distorted picture.** While transit officials seem to have little argument with that recommendation, they do take issue with the grim assessment drawn by the Census analysis of trends in transit use.

According to Robert G. Stanley, APTA director, planning and policy, "95% of the net loss [in workers using transit] is accounted for in New York and Philadelphia. By discounting those two cities you see that the trend nationwide has been a wash. Furthermore, the sizes of the absolute losses in New York and Philadelphia are almost insignificant in terms of the dependency of those cities on public transportation."

The Census report does not try to link worker ridership with overall transit use. The report says, "It should be clearly understood that census data do not reflect total transit ridership or total trips." But when asked by *Railway Age* whether work travel is a good indicator of total transit use, Fulton replied, "I would think so."

Stanley questions the validity of that assumption. "Fulton is talking about workers using transit," Stanley says, "and that is by no means a measure of total transit use. We show, from 1970 to 1980, an increase in total trips of a little over 12%. More importantly, the trends in between are very significant. From 1972, which generally corresponds with increases in federal operating assistance, ridership was up on the order of 25%."

Fulton challenges the industry figures. "In most cases," he says, "transit systems consider a pot of money and, by dividing it with some convenient factor, arrive at a ridership figure. That's hardly a statistically reliable way to estimate something. If we tried to count population that way we would be looked upon with a great deal of skepticism."

- **The off-peak factor.** Urban Mass Transportation Administrator Arthur E. Teele, Jr. sees the discrepancy between Census and transit industry figures in a different way. Asked about the discrepancy before a hearing of the Senate Appropriations Committee, Teele said, "In candor I don't think the Census Bureau should be held accountable for our omissions in setting up this data." UMTA (in a prior Administration) helped establish criteria for the Census measurement of transit ridership. "But it is clear," Teele said, "that some critical elements are not being considered, especially off-peak ridership." He also noted that the latest data show an overall increase in ridership for 1979-81.

Washington, D.C. was one area that bucked the declining trend in workers using transit, according to the Census study. And it has also come to depend rather heavily on off-peak ridership, according to outgoing General Manager Richard S. Page.

The number of Washington workers using transit rose by 18.5% during the past decade, though population increased only 5.2%. "A large part of our rising ridership was due to Metrorail," Page says of the system that first carried riders in 1976. And he notes that fully 30% of the rail system's riders are off-peak users—"the football crowd, the lunch bunch, etc."

Though skeptical of Fulton's claims that transit industry figures are substantially less reliable than Census figures, Page does take heed of the study's assertion that changing demographics are making it more difficult for transit to serve new suburbs and sprawling cities. "Transit has got to get smarter," Page says. More innovative bus service should be offered, but the big challenge will be to provide useful rail service. "If population and jobs are shifting as they have been in the past decade, and it's going to take us five to eight years to put in new rail lines, then we've got to be very careful that we plan these lines in the right place," he says.

- **New York's dilemma.** The New York area is one that has seen the problems rail systems face when population shifts. Overall, transit ridership among workers dropped 17.2% during the decade, though population fell only 8.6%. Subway ridership has been drastically falling in certain neighborhoods, but it has risen or stayed the same in many others, says Mortimer Downey, the Metropolitan Transportation Authority's executive director of capital programs. "It's a dilemma for us," he says. "Should we continue service in the declining neighborhoods? Those are where the lines are worse financially, but clearly they serve neighborhoods where reliance on public transit is more than it might be elsewhere."

Workers using public transportation, for regions and SMSA's of 1 million or more: 1980 and 1970

(Workers 16 years old and over. Numbers in thousands. SMSA's listed within regions by population size. SMSA definitions as of the 1980 census)

Regions and SMSA's	Number of workers using public transportation[1]		Numerical change, 1970 to 1980	Percent change, 1970 to 1980	Percent of workers using public transportation[1]	
	1980	1970			1980	1970
United States	6,175	6,662	-487	-7.3	6.4	9.0
Northeast	2,973	3,569	-596	-16.7	14.2	19.1
New York, N.Y.-N.J.	1,711	2,067	-355	-17.2	45.1	52.5
Philadelphia, Pa.-N.J.	275	383	-108	-28.1	14.0	20.7
Boston, Mass.	204	224	-19	-8.7	15.6	19.7
Nassau-Suffolk, N.Y.	142	145	-3	-1.7	12.5	15.5
Pittsburgh, Pa.	105	123	-18	-14.9	11.5	14.6
Newark, N.J.	94	143	-49	-34.4	10.7	17.4
Buffalo, N.Y.	33	52	-19	-36.3	6.6	10.5
North Central	1,222	1,409	-187	-13.3	4.9	6.7
Chicago, Ill.	568	650	-82	-12.6	18.0	23.3
Detroit, Mich.	64	125	-61	-49.0	3.7	7.9
St. Louis, Mo.-Ill.	57	71	-14	-19.5	5.7	8.0
Minneapolis-St. Paul, Minn.-Wis.	91	67	24	35.8	8.7	8.5
Cleveland, Ohio	87	107	-20	-18.9	10.6	13.4
Cincinnati, Ohio-Ky.-Ind.	38	42	-4	-8.8	6.5	8.3
Milwaukee, Wis.	49	67	-18	-26.2	7.7	12.0
Kansas City, Mo.-Kans.	25	28	-3	-10.1	4.1	5.4
Indianapolis, Ind.	17	25	-8	-32.9	3.2	5.8
Columbus, Ohio	23	29	-6	-21.9	4.6	7.4
South	1,036	1,117	-82	-7.3	3.3	5.0
Washington, D.C.-Md.-Va.	241	203	38	18.5	15.5	16.3
Dallas-Ft. Worth, Tex.	50	50	1	1.4	3.4	5.1
Houston, Tex.	43	42	1	2.4	3.0	5.4
Baltimore, Md.	99	113	-13	-11.8	10.3	13.8
Atlanta, Ga.	72	55	17	30.4	7.6	8.4
Miami, Fla.	48	46	3	5.9	6.6	9.1
Tampa-St. Petersburg, Fla.	11	11	—	-1.9	1.8	3.0
New Orleans, La.	53	74	-21	-28.4	10.9	20.4
San Antonio, Tex.	21	18	2	11.6	4.6	5.6
Ft. Lauderdale-Hollywood, Fla.	8	5	4	84.7	2.0	2.1
West	945	567	378	66.6	5.0	4.6
Los Angeles-Long Beach, Calif.	235	154	81	52.5	7.0	5.6
San Francisco-Oakland, Calif.	256	194	63	32.3	16.4	15.5
Anaheim-Santa Ana-Garden Grove, Calif.	20	2	18	764.6	2.1	0.4
San Diego, Calif.	28	23	5	20.8	3.3	4.3
Denver-Boulder, Colo.	50	22	28	129.2	6.1	4.4
Seattle-Everett, Wash.	74	38	36	94.4	9.6	7.1
Riverside-San Bernardino-Ontario, Calif.	6	3	2	64.5	0.9	0.9
Phoenix, Ariz.	13	5	9	188.8	2.0	1.3
San Jose, Calif.	20	9	11	118.0	3.1	2.3
Portland, Oreg.-Wash.	48	23	24	104.3	8.4	6.0
Sacramento, Calif.	15	7	9	124.8	3.5	2.3

— Less than 500

[1] Includes bus or streetcar, subway or elevated, railroads, and taxicab.

Source: U.S. Bureau of the Census, 1970 Census of Population—Volume I Reports, Fourth Count Summary Tape, and Special Tabulations; 1980 Census of Population, Summary Tape File 3.
SMSA = Standard Metropolitan Statistical Area

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WMATA's Page is convinced that it is possible for rail transit to accommodate the needs of a changing society. In Washington, he notes, Metrorail's growth will enable it to tap the suburb-to-suburb market. "In Houston and Los Angeles," Page says, "there is not much chance of making a mistake. Those cities have the density and the planned rail lines are probably in the right place. Demographic changes from 1980 to 1990 are not going to reduce the need for those two lines."

To assure success, though, better information is needed. "Most transit authorities still don't know the performance characteristics of their routes," Page says.

APTA's Stanley also thinks that rail transit will be able to adapt, and grow, in a changing market. "The Washington system," he says, "is perhaps the last one that we'll see for which a design and commitments are made for the entire system. Atlanta, Miami, Los Angeles, and Houston—all the new start systems—are proceeding on a corridor by corridor basis. When you work at that level it may cost more overall, but you still find a number of cities where rail systems are by far more cost effective than bus. The Regional Plan Association study, 'Urban Rail in America,' (*RA*, June 14, 1982, p. 28) pointed that out.

"Our approach," Stanley says, "has been to suggest that the aggregate picture, 1970-1980, is not a useful policy making approach. You really have to look region by region to see what the remaining contribution of transit is, or what it's emerging contribution is."

Many cities in the South and West, he notes, showed relatively small growth in transit ridership simply because their systems were unable to expand as quickly as population. "Houston is a good example," he says. "They didn't have a very big increase in ridership because their bus system is overwhelmed."

Other examples of rising but perhaps capacity-constrained transit ridership occurred in the West. In the Standard Metropolitan Statistical Area of Anaheim-Santa Ana-Garden Grove, Calif., worker ridership was up 765%, with a population increase of only 36%. Phoenix, Portland and Sacramento also showed surges in ridership that far outstripped population growth. Yet the total number of riders in those areas remains small, suggesting the potential for sustained growth.

These anomalies from the Census results point out the danger of setting national transit policy on the basis of an aggregate national trend, Stanley says. The Census analysis, he says, "is a neat little piece of a much bigger thing. Their analysis has chosen to take some cuts at aggregate levels which could very easily be used to distort a lot of very important factors."

Among those is the role that rail transit can play to meet changing travel patterns. "I certainly don't think that the Census information suggests that there should be a move away from fixed guideway," Stanley says. ■

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Railroads at midyear:

Coming out of the woods?

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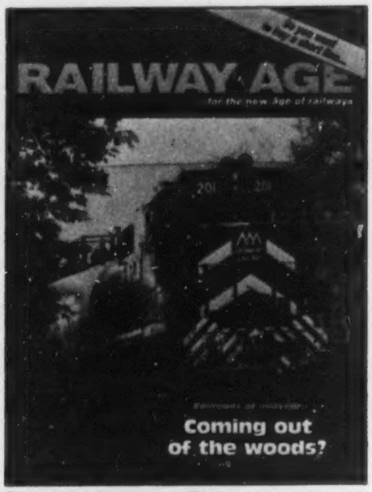
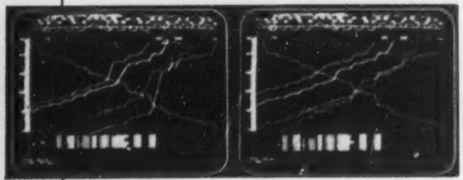


Cover: Vermont Railway TankTrain was photographed by General American, which originated the concept and supplies the cars. Midyear report, *Page 35.*



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Inside

LUTHER S. MILLER

Light at the end of the thicket

The picture on this issue's front cover depicts a Vermont Railway TankTrain coming out of the woods—a singularly appropriate illustration, it occurred to us, for a cover story that suggests that America's railroads may at last be emerging from the thicket of a deep national recession.

Pictorial puns aside, TankTrain provides an upbeat, offbeat railroad success story at a time when such stories are all too rare. TankTrain is the brainchild of General American Transportation Corp.

"Currently," GATX's George Loman tells us, "20 26,000-gallon TankTrain cars are utilized to transport gasoline from Albany, N.Y., to Mobil's facility in Burlington, Va. The Clarendon & Pittsford [a Vermont Railway subsidiary] acquired these cars in 1978 to transport 30 million gallons of Mobil gasoline per year. The cars average 50 to 60 trips per year and have so far moved 130 million gallons of gasoline. Mobil has recently became the lessee of these cars and has taken another three-car string on lease to meet seasonal distribution needs." In addition to the Vermont Railway operation, there are approximately 600 TankTrain cars in service on the MoPac, Grand Trunk Western, Conrail, Southern, CSX, Santa Fe, and Southern Pacific.

"The good days are coming more often"

How are things otherwise up in Vermont? Says Vermont Railway President J.R. Pennington: "This won't be a bonanza year but we're beginning to have some good days—and the good days are coming more often."

That pretty well sums up the national picture, too, as Senior Editor Gus Welty sketches it in our midyear report on the state of the industry (p. 35).

If railroads are beginning to experience some good days, the same cannot be said for many of their suppliers. When will the turnaround come for them? When will equipment orders rebound? These questions are explored in our cover story—but be forewarned: Like most people in this business, right now we have more questions than answers.

Market Outlook

Equipment

Canada: The federal government has placed orders for 1,380 new grain cars with Hawker Siddeley Canada, Marine Industries, and National Steel Car.

CN Rail: Plans to build up to 970 coal cars at its Transcona shop in Winnipeg. CN is also seeking bids for refurbishing and enclosing 115 bi-level and 70 tri-level auto rack cars.

Transamerica Transportation Services: Will acquire 1,750 piggyback trailers valued at $21.9 million from BRAE Corp. over a 15-month period. Trailers will be built by BRAE Trailers, with delivery of the first 750 units scheduled for calendar 1983. TTS also has an option to acquire approximately 1,500 additional trailers per year for the two years following completion of delivery of the 1,750 units now on order.

Western Fuels Association: Ordered 197 coal cars valued at $7 million from Ortner—162 rotary dump gondola cars (115 to be delivered by Sept. 1, 1983, and the remaining 47 cars by mid-1984); and 35 Rapid Discharge coal cars for delivery in July of this year. Earlier, Ortner received a $9-million order from Santee Cooper, South Carolina's state-owned utility, for 200 aluminum/steel coal cars for delivery in this year's third and fourth quarters (*RA*, June, p. 26).

Facilities

CP Rail: Has taken delivery of 250 miles of new rail from Algoma Steel Corp. at a cost of $36.5 million—part of a $110-million 1983 track improvement program that also calls for installation of 1.3 million new ties and 420 miles of ballast.

PAT (Pittsburgh): Awarded a $19.7-million contract to American Standard's Union Switch & Signal Division for supply and installation of a signal system for a 10.5-mile light rail transit line under construction between Gateway Center and Short Hills Village. PAT also awarded a $1,389,877 contract to Westinghouse Electric for installation of eight escalators and eight elevators in the line's three downtown subway stations.

Freight cars and locomotives

DELIVERED

	April		March	Four months	
	1983	**1982**	**1983**	**1983**	**1982**
Built new by carbuilders	205	2,265	334	1,390	7,656
Built new in RR shops	0	178	110	200	791
Built new—total	205	2,443	444	1,590	8,447
Rebuilt	0	136	0	0	518
TOTAL DELIVERED	**205**	**2,579**	**444**	**1,590**	**8,965**
Locomotives (new and rebuilt)	28	29	26	90	157

ORDERED

	April 1983	April 1982	March 1983	Four months 1983	Four months 1982
To be built new by carbuilders	614	539	207	1,619	3,592
To be built new in RR shops	1	0	0	3	0
To be built new—total	615	539	207	1,622	3,592
To be rebuilt	0	0	0	0	0
TOTAL ORDERED	**615**	**539**	**207**	**1,622**	**3,592**

ON ORDER AND UNDELIVERED

	May 1		April 1	Average Backlog	
	1983	**1982**	**1983**	**1983**	**1982**
To be built new by carbuilders	4,323	9,685	3,914	4,108	11,670
To be built new in RR shops	3	875	2	66	1,175
To be built new—total	4,326	10,560	3,916	4,174	12,845
To be rebuilt	0	382	0	0	589
TOTAL ON ORDER	**4,326**	**10,942**	**3,916**	**4,174**	**13,434**
Locomotives (new and rebuilt)	127	188	134	77	207

Estimated ownership—all revenue freight cars

May 1, 1983 vs. May 1, 1982

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRs	1983	278,256	164,623	131,913	290,142	84,826	55,004	22,803	1,027,567
	1982	304,801	172,768	141,764	303,116	89,643	57,941	24,479	1,094,512
Class II & S&T Cos.*	1983	50,161	9,127	10,562	11,168	5,067	3,359	2,968	92,412
	1982	53,831	9,354	10,961	13,103	4,860	3,545	3,545	98,966
Railbox-Railgon	1983	17,495		3,998					21,493
	1982	24,991		3,999					28,990
RRO&C** Refgs.	1983						4,667		4,667
	1982						3,536		3,536
Private	1983	577	129,720	27,764	21,288	54,216	3,007	186,113	422,685
	1982	703	129,610	26,868	21,002	52,368	6,517	190,594	427,662
GRAND TOTAL	1983	346,489	303,470	174,237	322,598	144,109	66,037	211,884	1,568,824
	1982	384,326	311,732	183,592	337,221	146,871	71,539	218,385	1,653,666

* Class II railroads and switching terminal companies.

** Railroad owned and controlled refrigerator car lines.

Source: AAR Transportation Division.

Market Indicators

DRI Railroad Industry Monitor

Despite the ongoing problem of massive budget deficits and the threat of new upward pressure on interest rates, the economic outlook is brightening. Growth in consumer spending continues to lead the recovery, and the new forecast for auto sales and housing starts is up slightly over last month's.

Unfortunately, current conditions in the coal industry offset some otherwise good news for railroads. Increased rail traffic in motor vehicles, chemicals and housing-related commodities are unlikely to make up for losses in coal loadings. Thus far in 1983 coal traffic is down more than 15% from last year, and if the recent weakness in western coal carloadings continues the gap will increase. Only an unexpected turnaround in demand can keep U.S. coal production from falling below 800 million tons this year.

(Annualized rates, by quarter)

	1982:2	1982:3	1982:4	1983:1	1983:2	1983:3	1983:4
Economic Indicators							
Real GNP (% change)	2.1	0.7	−1.0	2.5	6.2	5.9	4.7
Industrial Production (1967 = 1.0)	1.39	1.38	1.35	1.38	1.44	1.46	1.49
Housing Starts (mil. units)	0.95	1.12	1.26	1.70	1.56	1.61	1.63
Retail Car Sales (mil. units)	7.5	7.8	8.7	8.4	8.7	9.1	9.7
Raw Steel Production (mil. tons)	19.6	16.4	14.1	18.4	23.6	25.3	27.3
Total Class I Rail Traffic							
(millions of tons)	327.0	301.5	291.5	295.0	304.4	313.1	323.7
Key Commodities							
Grain	29.7	30.1	29.3	32.6	28.2	29.7	30.4
Coal	138.4	126.5	121.5	115.7	120.9	121.6	128.9
Pulp & Paper	9.1	6.5	8.4	8.5	9.0	9.1	9.2
Chemicals	23.1	21.3	21.0	24.2	23.9	22.7	23.9
Motor Vehicles	4.9	3.9	3.6	4.4	5.7	4.7	5.8

Source: Data Resources, Inc., June 10, 1983

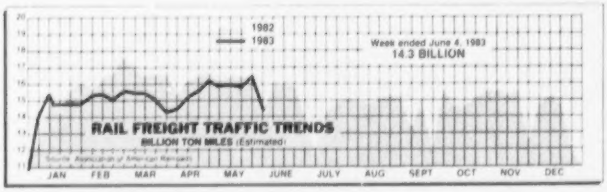
Revenue freight carloadings

Commodity	June 4 week	% change from 1982	May 28 week	% change from 1982	May 21 week	% change from 1982	May 14 week	% change from 1982
Grain	16,958	(11.9)	21,789	(1.6)	19,216	(23.8)	20,578	(16.5)
Other farm products	3,519	(13.2)	4,217	(7.9)	3,536	(21.7)	3,746	(14.5)
Metallic ores	18,634	(10.0)	20,998	(6.8)	20,716	(12.4)	20,773	(2.0)
Coal	91,224	(10.2)	104,537	(8.9)	100,493	(16.3)	102,351	(14.2)
Crushed stone, gravel & sand	9,710	18.4	11,034	10.7	10,983	4.9	10,871	3.5
Nonmetallic minerals	10,700	44.9	11,559	16.5	10,915	21.7	11,681	17.0
Grain mill products	10,290	1.2	11,842	4.0	11,351	(1.3)	11,569	(1.1)
Food & kindred products	9,890	(14.9)	11,809	(14.9)	11,661	(15.1)	11,845	(13.0)
Primary forest products	13,425	2.3	14,438	(3.7)	14,475	(6.4)	15,576	1.0
Lumber & wood products (except furniture)	6,502	27.7	8,452	22.3	7,903	22.9	7,280	20.2
Pulp, paper & allied products	14,547	(2.9)	15,647	(8.3)	15,373	(7.9)	15,107	(8.3)
Chemicals & allied products	19,965	8.7	22,182	(2.4)	22,424	2.0	23,102	(1.7)
Petroleum products	4,110	4.4	4,733	(1.6)	4,786	4.1	4,601	(3.7)
Stone, clay & glass products	9,943	10.8	11,326	12.3	10,825	6.1	11,336	10.1
Coke	5,215	8.0	5,356	19.4	4,862	7.3	4,702	2.4
Metals & products	8,015	1.1	8,741	(13.8)	8,259	(15.4)	8,097	(17.0)
Motor vehicles & equipment	15,479	7.8	18,481	8.5	18,608	2.8	17,860	5.4
Waste & scrap materials	6,849	1.5	8,997	3.0	8,740	0.8	8,725	(0.4)
Forwarder & shipper assn. traffic	7,084	(0.2)	8,712	(4.7)	8,505	4.6	8,130	(4.8)
All other carloads	43,073	13.4	51,610	14.9	49,825	10.3	49,047	10.2
LCL traffic	226	(82.4)	298	(83.1)	271	(83.8)	256	3.2
Total Cars Loaded	**325,358**	**(0.7)**	**376,758**	**(1.4)**	**363,727**	**(6.6)**	**367,233**	**(4.7)**

Estimated revenue ton-miles (billions)	**1983**	**1982**	**% change from 1982**
22 weeks	336.2	352.8	(4.7)

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
May 7	44,856	24.4	77,151	16.3
May 14	44,405	22.2	76,981	16.0
May 21	45,224	25.7	78,594	20.0
May 28	46,514	24.4	80,463	20.1
Cumulative total, 21 weeks	898,060	18.6	1,539,947	14.3



Lines on Labor

Productivity improvement: It can be had...

When the National Association of Rail Shippers Advisory Boards invited a group of top railroad officers to its recent seminar in Boston, NARSAB wanted them to talk about many of the goals in railroading—including profitability, performance, innovation, productivity. NARSAB got a good bunch together. Not surprisingly, most of them talked about productivity. Not surprisingly, many of those who talked about productivity got around to mentioning labor productivity. Not surprisingly, not everyone who was looking at labor productivity was gazing through the same-color glasses. Overall, the comments were probably more positive than negative. But it wasn't unanimous.

GUS WELTY

AAR Executive Vice President Dick Briggs, for example, noted the formation of an AAR directors' committee on productivity—a committee which will look into all major areas of productivity improvement, including labor. "We're pleased," he said, "by the degree of cooperation we've been receiving from our labor unions—who recognize that labor productivity improvements are essential to the future of this industry." BN's chairman, president and chief executive officer, Walter Drexel, talked about his road's goal, which is to "encourage and nurture an entrepreneurial spirit among our employees. We're asking them to toss out the traditional, roll up their sleeves and plug in their imaginations." Stanley Crane, chairman and chief executive officer of Conrail, called attention to what labor has done to help CR make it into the black.

Dick Spence, executive vice president-operations of Seaboard System, concentrated on the practicable, on what can be done within the limits of national agreements. Where Seaboard does have some latitude, he said, "we have moved out ahead." There is a crew-consist agreement covering much of the railroad. Arbitration has been invoked under the caboose-off agreement. Buy-out programs are under way where agreements have provided lifetime jobs and personnel levels are higher than needs.

Nobody said it was easy, nor that it would be easy, this matter of improving productivity—not Briggs nor Drexel nor Crane nor Spence. Nor, especially, Alan Dustin, president and chief executive and chief operating officer of B&M.

Dustin runs a railroad that's been fighting its way out of bankruptcy, and making it; a road that opted against going into Conrail and a road that may be going into the Guilford New England system. And he is not happy with the record on labor: "The entire area of labor productivity potential on most railroads has hardly been tapped." As he sees it, railroads have consistently granted wage-benefit improvements "as a matter of course," with few if any meaningful improvements in return. B&M, he noted, did get concessions from the UTU several years ago, which resulted in savings "that make the difference between life and death for us." But, he added, the savings came not through one-on-one agreement but rather through arbitration. And Alan Dustin is wondering what will come next year, with a new agreement due.

...and the time to go for it is now, not when it's too late

In no way could you equate Dick Briggs or Walter Drexel or Stanley Crane or Dick Spence with Pollyanna. Nor could you line Alan Dustin up as your traditional Cassandra. Still, you listen to him: "We can't continue to grant expensive and inflationary wage increases that we can't afford, while at the same time we perpetuate the multi-layers of added pay through arbitraries and continue with outmoded work rules which only create inefficiencies and delays and added expenses." Railroads, Dustin says, "have been willing slaves to organized labor. ...it's time we became masters of our own fate."

All of the NARSAB speakers quoted had a point. Dustin's was, perhaps, particularly poignant, since he has been in charge of a bankrupt railroad. Why? Because it brings to mind a statement allegedly made by a union officer on a solvent road who was asked to grant concessions matching those given to a competing bankrupt road. OK, the union guy allegedly said, "Come see us when you're bankrupt, too."

Class 1 railroad employment

Employee Group	No. of employees, mid-month count May 1983	Percent of change April 1983 from May 1982	April 1983
Total-all Employees	332,440	d 15.60	i 1.24
Executives, officials and staff assistants	14,892	d 14.13	d .36
Professional, clerical and general	71,062	d 13.01	d .36
Maintenance of way and structures	68,055	d 12.96	i 7.90
Maintenance of equipment and stores	60,062	d 24.13	d .68
Transportation (other than train, engine and yard)	15,975	d 13.41	i 1.36
Transportation (yardmaster, switchtenders, and hostlers)	6,106	d 12.90	i 1.29
Transportation (train and engine service)	96,268	d 14.04	d .47

Source: ICC

Santa Fe photo by Orville Brent, Jr.

Railroads at midyear:

Coming out of the woods?

Increases in intermodal, motor-vehicle, and lumber traffic are seen as signposts on the road to recovery as the national economy pulls out of its longest postwar slump.

By GUS WELTY,
Senior Editor

The recession is over.

Recovery is here.

Railroads are sharing in it.

Rail-industry suppliers will, too—though possibly not equally and probably not for a while.

The signs of recovery are all around. It's been said that recovery has to be consumer-led, and if that's so then there's cause for positive thinking. Retail sales look promising. So do big-ticket sales, such items as appliances and motor vehicles. Single-family housing starts have been looking better. Heavy capital investments aren't looking that great yet, but here there's a catch-up game to be played, with demand not yet caught up to capacity. Consumer confidence, the indices say, is up.

What all of this means to transportation generally and to the railroad industry specifically is that demand is picking up. The standard measurements of railroad performance are inadequate, even flawed. But after lagging far behind the levels of 1982, revenue freight carloadings and ton-miles have been getting closer to year-ago performance. As of early last month, both carloadings and ton-miles were running just a fraction of a percent under the numbers for '82. And, while comparisons with 1981 looked less good, still, a comeback is under way.

And it's perhaps significant that the traffic gains being made by railroads are precisely in the areas where the economy as a whole is gaining.

Intermodal traffic, representing relatively high-value comsumer goods in large part, hit a record high last year despite the recession. This year, it should blow that year-old record sky-high, with increases through the first five months of better than 19% in general-merchandise carloadings.

Loadings of lumber and other wood products have been up by more than 20%, reflecting the budding recovery of the home-building industry.

Chemical traffic? It's within a percentage point of last year's levels. Grain loadings are down about 5%, but that's a figure that could be improved upon later in the year.

Among the major commodity groups, only coal and the commodities related to steel production seem to be down to a point where increases will not happen in '83.

And coal—like grain—is in part dependent on politics, on the kind of arrangements that will make the United States a preferred supplier rather than the supplier-of-last-resort.

Translated into dollars, what the traffic numbers mean is that railroads are not doing badly, overall. First-quarter operating revenues were down to under $6.5 billion from almost $7.2 billion last year, but operating expenses were also down, from $6.8 billion to $6.1 billion. Net revenue from operations dropped only slightly, from $368 million in 1982 to $361 million this year. Ordinary income dropped a bit more, from $210 million last year to $173 million, but income gains were recorded in both the southern and western districts.

- **Lean—and learning to be mean.** With

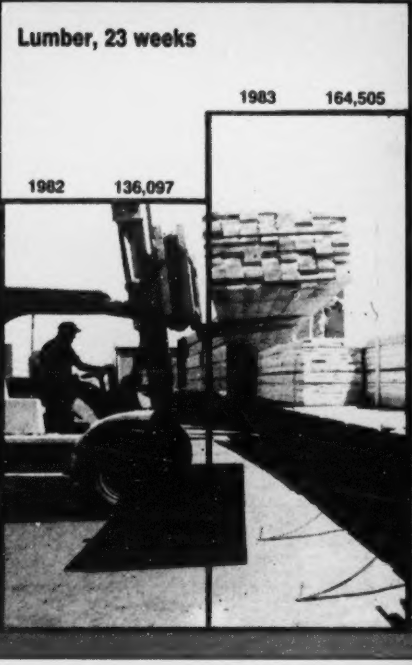
How railroads performed in first quarter '83

	1983 (millions)	1982 (millions)
Operating revenues	$6,487.3	$7,196.2
Operating expenses	6,125.8	6,827.6
Net revenue from operations		
United States	361.5	368.7
Eastern District	13.7	108.9
Southern District	122.3	91.6
Western District	225.6	168.2
Rate of return on net investment[1]	2.4%	3.2%
Ordinary income		
United States	173.2	210.4
Eastern District	5.9	61.2
Southern District	70.1	56.2
Western District	97.3	92.9

[1] For 12-month period ending March 31, 1983.

Source: AAR

Where carloadings



traffic numbers and dollar numbers such as these, it would seem that railroads will have a lot of leverage as the economic recovery continues. The popular phrase is that railroads will be "lean and mean" as competitors for the transportation dollar.

There can be no question about the "lean" part. Employment numbers have been reduced in both union and exempt ranks, to well under 340,000. Many, perhaps most, of the people who have been furloughed will not be returning.

"Mean" is something else. With deregulation—even with its limits—there is no question that railroads have become meaner. But motor carriers have also been deregulated. Motor carrriers have also become meaner. Motor carriers have had to go through a period in which there has been an almost absolute free entry into the market place, something that railroads have not had to endure because of the costs-of-entry involved.

The motor carriers that survive are going to be truly lean and mean. Railroads, on the other hand, may still have a learning process to go through. They're lean. But a lot of the "mean" part has been directed at other railroads, in locking up traffic through contracts, in closing gateways in order to preserve or create a long-haul operation, in rate-cutting (especially in intermodal) that can cut deeply into margins.

It has been said that in Canada—where there are just two major railways—it took from five to seven years for deregulation to really take hold in terms of the railways' understanding of it, how it worked and how it could work for them. Deregulation, under the Staggers Act, will be only three years old in the United States this fall. But it seems clear that U.S. railroads are still going through the learning process, despite their opportunity to observe the similar-but-different experience in Canada. There is still, apparently, a feeling that the traffic to go after is another railroad's traffic—not the business that may be moving by some form of carriage other than rail.

• The rest of '83. But, with that out of the way, what does the rest of 1983 really look like? And what will the second half do for 1983's full-year results?

At this point, '83 shapes up as a year in which railroads may come out marginally ahead of '82 in terms of total traffic handled. While that may not seem like much of an accomplishment since '82 was the the year of the plunge—in both carloadings and ton-miles—even coming out even would be significant. Why? Mainly because of the recession that has hit coal traffic, domestic and export. Coal loadings have been running almost 15% below last year's levels. Through mid-June, that translated into a loss of something approaching 400,000 carloads—and the outlook for a pickup in coal traffic for the rest of the year is not all that bright. Export movements continue to be depressed. And a resurgence in domestic movements may only come late in the year for a couple of reasons. One has to do with the state of the steel industry. Another has to do with the slowness of utility and other conversions to coal. A third has to do with the fact that many utilities already have substantial stockpiles of coal to be worked off; increased demand for energy—demand associated with economic recovery—isn't likely to bring an immediate increased demand for coal.

Grain has been another negative for most roads thus far, with total loadings down by about 5%. But here, there are some positive signs. Talks have been under way on a new export agreement with the Soviet Union. Closer to home, grain will have to be redistributed in connection with the federal government's payment-in-kind program, even as harvests are beginning to come in and storage facilities are jammed.

Other major commodity areas look more promising, especially those related to recovery.

• The intermodal boom. Of all the traffic categories on the sheet, none looks more promising than intermodal.

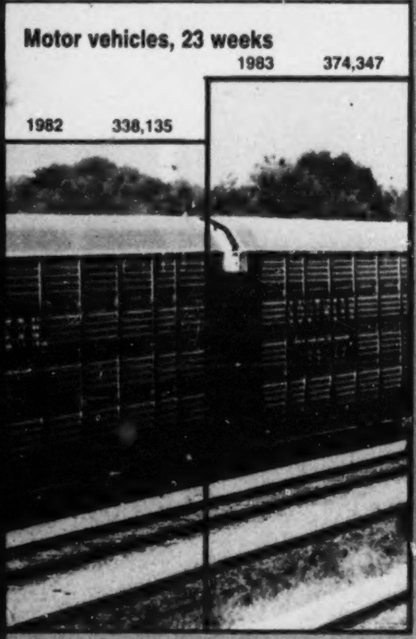
Past recessions have seen TOFC/COFC decline at about twice the rate of traffic in general. But piggyback loadings were up in 1981 and, even as the recession was deepening in 1982, intermodal loadings were on their way to a new record high. Given the increases recorded in first-half '83 and assuming that a continuing economic recovery will give an added boost to piggyback, another new record is the safest bet on the board for 1983.

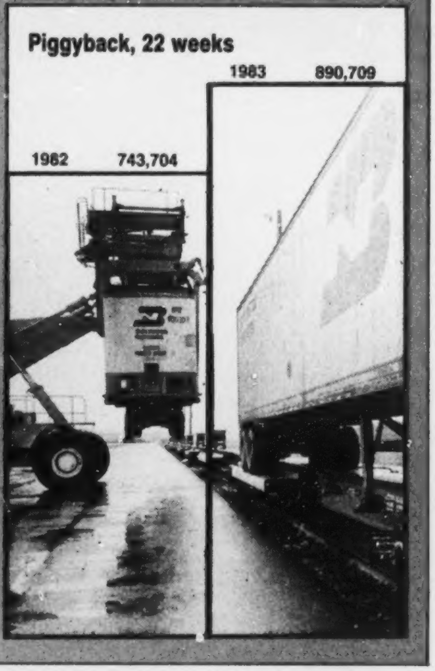
What accounts for intermodal's growth? The list of factors would include deregulation, and the increased flexibility in marketing it has made possible. It would include the provision of faster, more reliable service—made possible in part because railroads are concentrating on improving operations at major intermodal centers and using highway services for pickup and delivery over wider areas from the rail hub centers. It would include, of course, such specifics as piggyback rate-cutting, conversion of boxcar traffic to piggyback, and innovative marketing programs that have created more backhaul business.

Significantly, Trailer Train has been looking at numbers that show about 80% of its intermodal car fleet in service. Average daily mileage has gone from about 165 last year to 205 miles per day in '83.

So, if you look at traffic trends in both generalities and specifics, the recovery-year looks reasonable. Perhaps most important, the odds are strongly in favor of the rail industry's winding up the year on an upswing—something that could be as meaningful psy-

are up this year





chologically as it would be in terms of carloadings and ton-miles.

• Revenues and expenses. As for the financial side of the ledger, the last six months should see operating revenues climbing while expenses remain relatively stable. Labor costs will go up somewhat because of a midyear wage increase and because as traffic increases some operating and maintenance employees will be recalled. But fuel prices have been down, so have material-and-supplies prices, and the result could be a wash, with practically no inflation overall for 1983.

One problem here is that it's not so easy to look beyond '83. Increases in costs associated with the latest effort to save the Railroad Retirement system will have to be reckoned with. And as of next Jan. 1, the rail unions are free to come in with new contract demands, although no changes can take place until mid-1984.

Results of the upcoming bargaining are anybody's guess. Study commissions, set up in connection with the current agreements, have been working in modernization of a range of elements involved in the existing pay structure for operating employees, but it remains to be seen what significant changes can in fact be made.

Moreover, rail labor may also have a psychological boost as negotiations begin, just as it did when the wage/benefit pattern for the current agreement was set. Then, railroad fortunes were on an upswing, and labor was able to win what would turn out to be a costly pattern for the carriers so far as percent wage increases were concerned. Late in the game, as talks with the operating unions dragged on and as the depth of the recession became appallingly clear, railroads were able to get the study commissions established and they were able to work out a caboose-off agreement.

Next year, if current traffic and financial forecasts are on the mark, labor may again be negotiating during a period in which railroad fortunes are heading upward. If inflation in the CPI continues at a 4% rate or even if it creeps up slightly as recovery gets stronger, the organizations may not have a strong case for fat increases, especially in light of tradeoffs which should be involved in connection with higher Railroad Retirement costs. At the same time, if the railroad financial situation is improving, labor will doubtless be less likely than ever to engage in what has become popularly known as concession bargaining.

• A cloudy spending picture. What all these elements—especially the traffic gains and the financial leverage—will mean to railroad capital spending plans is not yet clear. The latest Commerce Department estimates, for example, see railroad expenditures in '83 down from '82 levels—which seems a certainty—but Commerce does look for the industry to increase spending as the year progresses.

Commerce's total dollar numbers look high, just as they did six months ago. But the late-year pickup forecast makes sense, and other forecasts—which see 1984 as the rebound year—make even more sense. The reason: Like many other industries, railroads have a lot of excess capacity to work off before there will be much growth in need for heavy capital investment.

This may be less true for plant investment than for equipment investment. Many roads cut back sharply on the capital part of roadway-and-structures spending in 1982-83, which means that many needed improvements have been delayed. Railroads don't want to delay them much longer, because of the return-on investment they can provide and because of once-burned wariness about having to play catch-up.

Equipment is another story. For both locomotives and cars, there is a gut feeling that much of the equipment in storage won't go back into service, because it's too old, or too small, or too inefficient, or too costly to put into and keep into good repair. But the fact remains that there are upwards of 300,000 railroad and private freight cars idle. Even if one-third of those cars were never to turn a wheel in revenue service again, there remains too much unused capacity for railroads to start lining up at carbuilders' doors just yet.

This was reflected in the numbers developed for the midyear forecast meeting of the American Railway Car Institute. For '83, the mean number developed from 28 carbuilder and component-supplier participants in ARCI's survey was 9,775 for new orders, with a top estimate of 20,000. For '84, the mean number was somewhat more encouraging, coming in at better than 26,500 cars ordered, with one optimistic forecaster looking for a 50,000-car year. Mean figures on deliveries were lower, 7,678 this year and 20,600 in '84.

As for long-range predictions, ARCI's forecasting team has been close on two prior five-year projections—off-target on the market-mix, but close on total numbers. This time around, there would seem to be some question, because the original forecast for 1983-87 called for an average of 43,000 cars per year. Clearly, the 1985-87 period will have a lot of making-up to do if the forecasters are to be anywhere close on that average.

And actually, even the best-available traffic forecast for '83 seems optimistic, unless recovery really takes off, given the low level of coal loadings and the impact that coal has, especially on the ton-mile chart. The encouraging thing is that both carloading and ton-mile figures are starting to appear without a D-for-decrease attached to them.

The most encouraging thing for all, though, is the thing that has been happening to the bottom line. Forget, for the moment, the increases in ordinary income reported by roads in the southern and western districts for first-quarter '83. Look instead at the fact that roads in the eastern district were actually in the black, overall, for that period, before recovery had really begun to gather itself together. The income figure was way down from last year's—but it was black, not red. Contrast that with the eastern district's past record, in good years as well as in bad ones—and note that in every year from 1970 through 1979, eastern-district roads overall showed a loss in the ordinary-income column.

That's recovery. ■

REVENUES AND EXPENSES OF RAILWAYS

First quarter figures of calendar year 1983

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Way & structures			Equipment											
		Freight	Other	Total 1983	Total 1982	Total 1983	Total 1982	1983 Deprec.	Total 1983	Total 1982	1983 Deprec.	Total 1983	Total 1982	Operating Ratio 1983	Operating Ratio 1982	Income after fixed charges 1983	Income after fixed charges 1982	1983 Net Ry. operating income	Net income 1983	Net income 1982
Amtrak	3 mos.	—	146,953	146,953	110,482	38,687	29,317	3,926	90,204	74,937	20,847	341,383	305,070	232.30	276.12	(212,043)	(211,641)	(194,430)	(212,043)	(211,641)
Atchison, Topeka, Santa Fe	3 mos.	476,426	9,494	485,920	535,402	77,281	76,532	3,671	123,710	128,747	23,592	483,817	521,757	99.56	97.45	(3,493)	3,097	2,611	(3,227)	1,881
Baltimore & Ohio	3 mos.	188,456	7,613	196,069	239,666	32,025	44,779	2,305	51,200	60,592	7,094	201,812	248,573	102.92	103.71	(10,024)	(10,539)	(3,349)	(8,314)	(6,036)
Bessemer & Lake Erie	3 mos.	9,574	728	10,302	16,601	2,804	3,126	988	1,976	3,527	1,156	15,679	19,321	152.19	119.99	(5,156)	(2,420)	(2,718)	(2,497)	(838)
Boston & Maine	3 mos.	26,299	1,196	27,495	30,021	5,210	5,659	366	8,438	8,102	363	29,882	30,728	108.68	102.35	(1,815)	604	(2,312)	(2,003)	411
Burlington Northern	3 mos.	971,656	21,660	993,316	918,807	154,031	146,516	6,628	178,985	200,068	17,759	842,840	863,795	84.85	94.01	133,324	56,058	94,621	77,459	32,771
Chesapeake & Ohio	3 mos.	204,022	6,913	210,935	256,160	27,822	40,350	1,978	49,557	59,842	3,449	195,386	230,563	92.62	90.00	9,372	31,314	11,296	5,134	14,594
Chicago & North Western	3 mos.	173,739	23,192	196,931	199,601	32,563	40,135	1,589	49,126	55,294	4,519	192,757	218,597	97.88	109.51	(55)	(7,016)	5,500	(55)	(7,022)
Chicago, Milwaukee, St. Paul & Pac.	3 mos.	82,189	4,788	86,977	97,551	13,304	18,319	785	23,988	28,421	3,377	83,420	106,703	95.91	109.38	1,416	(1,855)	3,555	3,225	(11,296)
Conrail	3 mos.	696,722	21,292	718,014	894,297	120,059	148,213	7,343	189,546	240,996	36,452	701,296	912,094	97.67	101.99	10,252	(22,623)	16,851	18,568	(15,054)
Delaware & Hudson	3 mos.	22,980	1,003	23,983	28,434	4,502	6,339	157	7,813	7,521	883	27,421	30,240	114.33	106.35	(6,034)	(3,954)	(3,405)	(6,034)	(3,954)
Denver & Rio Grande Western	3 mos.	67,913	1,771	69,684	78,893	9,319	10,576	686	14,181	14,891	3,080	63,670	68,807	91.36	87.21	6,056	9,638	4,742	4,813	7,269
Detroit, Toledo & Ironton	3 mos.	15,625	678	16,303	16,862	2,064	3,359	130	5,657	6,484	941	17,841	21,014	109.43	124.62	(2,616)	(4,610)	(1,534)	(2,616)	(4,610)
Duluth, Missabe & Iron Range	3 mos.	9,116	294	9,410	12,316	4,780	6,596	922	2,241	2,789	717	14,102	19,309	149.86	156.77	(4,488)	(5,829)	(2,968)	(2,214)	(3,027)
Elgin, Joliet & Eastern	3 mos.	14,136	7,633	21,769	28,100	2,468	3,564	197	2,734	1,482	1,856	19,289	21,691	88.60	77.19	3,322	7,876	946	1,788	4,195
Florida East Coast	3 mos.	25,305	314	25,619	23,188	5,006	6,124	326	3,872	3,184	1,020	19,691	20,029	76.86	86.37	7,650	4,021	2,734	4,456	2,951
Grand Trunk Western	3 mos.	48,895	3,207	52,102	61,110	6,422	7,653	482	12,216	13,558	1,224	56,891	61,756	109.19	101.05	(5,604)	(1,690)	(3,460)	(4,276)	(769)
Illinois Central Gulf	3 mos.	204,739	18,964	223,703	247,725	23,701	41,235	1,984	70,949	79,197	6,106	216,773	266,175	96.90	107.44	223	(17,178)	7,077	(107)	(16,745)
Kansas City Southern	3 mos.	71,753	3,180	74,933	84,368	13,209	15,670	784	18,306	17,444	5,283	67,899	71,245	90.61	84.44	5,945	10,527	5,581	4,467	7,569
Long Island	3 mos.	2,468	109,205	111,673	99,362	25,088	25,211	838	27,600	26,412	2,402	120,133	114,619	107.57	115.35	(8,521)	(15,329)	(8,338)	(8,521)	(15,329)
Missouri-Kansas-Texas	3 mos.	53,420	1,909	55,329	60,419	8,168	8,950	411	12,785	15,906	1,918	50,558	56,108	91.37	92.86	2,390	1,037	4,728	2,590	1,037
Missouri Pacific	3 mos.	403,730	10,275	414,005	444,463	61,320	55,217	2,737	100,992	107,792	17,930	373,972	387,238	90.33	87.12	27,277	50,084	32,038	16,812	33,788
Norfolk & Western	3 mos.	333,772	13,646	347,418	484,074	74,492	62,364	3,799	71,469	84,053	14,307	330,868	357,710	95.23	73.89	35,696	147,075	11,391	22,663	89,005
Pittsburgh & Lake Erie	3 mos.	9,138	344	9,482	15,650	1,861	3,313	44	5,027	3,329	323	15,543	17,495	163.92	111.78	(8,402)	(3,299)	(6,058)	(8,402)	(3,306)
St. Louis Southwestern	3 mos.	82,701	1,411	84,112	100,080	10,816	13,981	679	20,602	21,234	5,809	77,937	84,085	92.65	84.01	5,520	16,442	4,501	3,846	9,863
Seaboard System*	3 mos.	592,578	13,996	606,574	651,693	86,836	98,632	5,173	154,322	165,103	19,636	557,013	610,911	91.82	93.74	39,750	36,361	48,075	35,590	27,162
Soo Line	3 mos.	65,234	1,451	66,685	75,751	11,045	11,937	477	15,934	16,900	2,021	62,938	67,139	94.38	88.63	3,793	9,687	2,498	2,340	6,017
Southern	3 mos.	374,244	8,961	383,205	411,292	49,035	52,871	5,271	79,403	82,356	19,839	323,343	345,152	84.37	83.91	52,843	67,571	38,424	30,115	42,788
Southern Pacific	3 mos.	448,667	13,831	462,498	547,198	84,061	94,945	4,911	130,003	168,315	21,420	500,181	576,522	108.14	105.35	(38,063)	(17,727)	(33,959)	(34,339)	(17,348)
Union Pacific	3 mos.	438,945	6,145	445,090	470,659	59,551	60,134	3,454	93,860	93,005	23,878	399,223	414,229	89.69	88.01	38,284	49,360	31,204	23,592	30,442
Western Maryland	3 mos.	16,418	567	16,985	20,374	4,005	2,867	219	3,569	2,973	1,398	16,749	15,437	98.61	75.76	563	5,405	120	438	2,954
Western Pacific	3 mos.	40,256	555	40,811	46,124	6,664	6,854	146	10,768	10,649	1,768	46,913	47,939	114.95	103.93	(3,749)	1,143	(4,365)	(2,042)	998

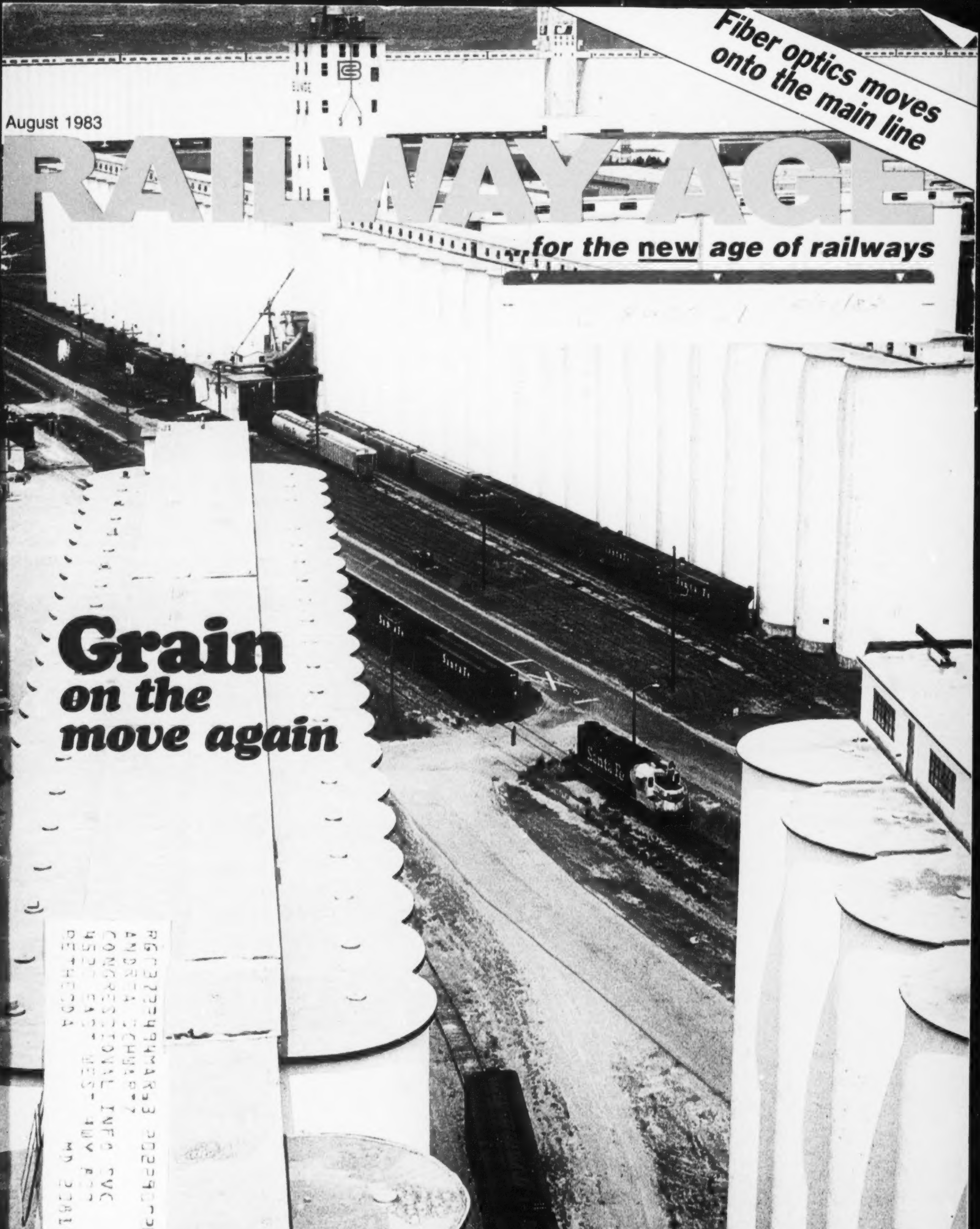
*As a result of mergers in the latter part of 1982, Seaboard System data for last year has been restated for comparative purposes to include Louisville & Nashville Railroad Co., Clinchfield Railroad Co. and Georgia Railroad.

August 1983

RAILWAY AGE

for the new age of railways

Fiber optics moves onto the main line



Grain on the move again

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RAILWAY AGE
...for the new age of railways

Fiber optics moves onto the main line
August 1983
RAILWAY AGE
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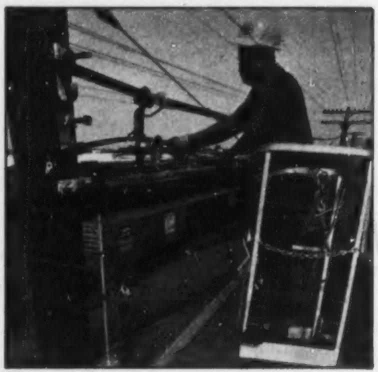
Grain on the move again

Cover: Santa Fe photo by Orville Brent, Jr. *Page 42.*



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LIRR'S five-year capital program is now budgeted at $1 billion—and the railroad will need to spend every penny to keep up with its increasing traffic.

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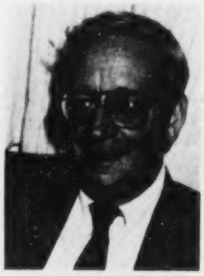
Keep an eye on fiber optics


LUTHER S. MILLER

Fiber optics—communication by light-wave—has captured the imagination (if not always the big bucks) of people whose job it is to see that messages get from A to B with a minimum of interference. Three years ago, when Associate Editor John Armstrong wrote the then-definitive piece on the subject for Railway Age readers (*RA*, Feb. 25, 1980, p. 48), the question was, "What can fiber optics do for the railroads?"

That question remains unresolved, for reasons which John goes into in his latest piece, which starts on p. 46 of this issue.

But now there's a new question: "What can the railroads do for fiber optics?"

The nature of railroad real estate—which is long and narrow—lends itself almost uniquely to the installation of optical fibers. Already, CSX and Amtrak have rented out portions of their rights-of-way for such installations. CSX has gone further. It is now engaged in a study with a telephone company that could lead to a role not just as a lessor of land but as a partner in a fiber optics communication venture.

The stakes are big. By one estimate, there's a $25-billion market nationwide for optical fiber communications.

The railroads, though narrow, *are* nationwide. It may turn out that they will reap far more from the fiber optics revolution than interference-free message capability.

"The Great CPR Exposition"

If you happen to be in the vicinity of Calgary, Alta., between Aug. 11 of this year and May 13 of next (or if you can get there on any pretext), make it a point to drop into the Glenbow Museum. Aug. 11 marks the 100th anniversary of the arrival of the Canadian Pacific Railway in Calgary. A Glenbow exhibition that opens that day will trace the history of the controversial railway enterprise and its effect on the shaping of Canada. CPR is sponoring the show and has supplied archival material, artifacts and works of art. The photo reproduced here shows a construction crew and camp near Glacier House, B.C., circa 1885.

Market Outlook

Equipment

BRAE Corp.: Through subsidiaries, arranged acquisition and financing of intermodal trailer equipment valued at more than $16 million; included are 1,000 units leased to a subsidiary of Xtra and 325 trailers built by BRAE Trailers and leased to a subsidiary of Transamerica.

Indonesian State Railways: Ordered 18 General Electric U18 A-1-A diesel-electric locomotives for delivery in August and September. Also included in the sale, aided by the Export-Import Bank, are spare parts, modernization kits and additional spare parts for existing locomotives, and tools for maintenance facilities. Value of the order is $19.2 million.

Facilities

Burlington Northern: Applied to the FRA for permission to install ctc between the Washington points of Letah Jct. and Bluestem, 39.6 miles.

Milwaukee Road: Awarded a $1,250,000 contract to Fujitsu Systems of America for five 8500 series minicomputers to be installed at Chicago, Milwaukee, Minneapolis and Davenport.

Pennsylvania High Speed Intercity Rail Passenger Commission: Selected Parsons Brinckerhoff/Gannett Fleming to conduct a $2.3-million feasibility study to determine the need for and means of building and funding a high speed rail passenger network.

Southern Pennsylvania Transportation Authority: Awarded a $4-million contract to ASEA Inc. of White Plains, N.Y., for the supply of a 15 MVA static frequency converter for its Wayne Junction substation.

Union Pacific-Missouri Pacific: Will spend about $5 million for track and signal improvements in the Kansas City area to improve flexibility in routing of trains through the terminal. In addition, UP will spend about $2 million on track and facilities improvements in Oregon, including construction of a new TOFC terminal.

Freight cars and locomotives

DELIVERED

	May		April	Five months	
	1983	1982	1983	1983	1982
Built new by carbuilders	376	1,694	205	1,766	9,350
Built new in RR shops	0	100	0	200	891
Built new—total	376	1,794	205	1,966	10,241
Rebuilt	0	130	0	0	648
TOTAL DELIVERED	**376**	**1,924**	**205**	**1,966**	**10,889**
Locomotives (new and rebuilt)	22	70	28	112	227

ORDERED

	May		April	Five months	
	1983	1982	1983	1983	1982
To be built new by carbuilders	797	487	614	2,416	4,079
To be built new in RR shops	0	0	1	3	0
To be built new—total	797	487	615	2,419	4,079
To be rebuilt	100	0	0	100	0
TOTAL ORDERED	**897**	**487**	**615**	**2,519**	**4,079**

ON ORDER AND UNDELIVERED

	June 1		May 1	Average Backlog	
	1983	1982	1983	1983	1982
To be built new by carbuilders	4,744	8,478	4,323	4,235	11,032
To be built new in RR shops	3	775	3	53	1,095
To be built new—total	4,747	9,253	4,326	4,288	12,127
To be rebuilt	100	252	0	20	521
TOTAL ON ORDER	**4,847**	**9,505**	**4,326**	**4,308**	**12,648**
Locomotives (new and rebuilt)	127	178	127	87	201

Source: AAR Transportation Division

Estimated ownership—all revenue freight cars

June 1, 1983 vs. June 1, 1982

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Others	TOTAL
Class I RRs	1983	279,267	164,282	130,842	289,300	84,623	55,227	22,720	1,026,261
	1982	301,542	172,475	141,322	303,291	89,422	57,623	24,213	1,089,888
Class II & S&T Cos.*	1983	50,396	9,532	10,698	11,178	5,092	3,371	2,966	93,233
	1982	53,869	9,358	10,928	13,008	4,846	3,546	3,335	98,890
Railbox-Railgon	1983	15,533		3,998					19,531
	1982	24,956		3,999					28,955
RRO&C** Refgs.	1983						4,924		4,924
	1982						3,545		3,545
Private	1983	420	128,822	27,740	21,278	54,021	2,383	185,046	419,710
	1982	702	128,720	27,032	21,164	52,451	6,458	190,530	427,057
GRAND TOTAL	1983	345,616	302,636	173,278	321,756	143,736	65,905	210,732	1,563,659
	1982	381,069	310,553	183,281	337,463	146,719	71,172	218,078	1,648,335

*Class II railroads and switching terminal companies.

**Railroad owned and controlled refrigerator car lines.

Source: AAR Transportation Division

Market Indicators

DRI Railroad Industry Monitor

The economic outlook continues to improve. The rise in consumer confidence has produced strong growth in auto sales and housing starts, and the effect of increased consumer spending is being felt.

Rail traffic patterns reflect the tensions in the economy. Tonnage in motor vehicles, building materials, chemicals, and TOFC shows growth, while tonnage in steel industry raw materials and products remains depressed. The prospects for coal also remain dim this year. The slow recovery in basic industrial production has limited the demand for electricity, while weak overseas markets and price-cutting by foreign coal producers have slashed export demand. Growing strength in the consumer-driven sectors of the economy should lift rail traffic in the second half of the year and make 1983 totals roughly equal to 1982, but the railroad industry will have to wait until 1984 for any substantial growth in traffic.

	1982:2	1982:3	1982:4	1983:1	1983:2	1983:3	1983:4
Economic Indicators (Annualized rates)							
Real GNP (% change)	2.1	0.7	−1.3	2.6	8.7	5.9	4.8
Industrial Production (1967=1.0)	1.39	1.38	1.35	1.38	1.44	1.47	1.50
Housing Starts (mil. units)	0.95	1.12	1.26	1.69	1.69	1.72	1.69
Retail Car Sales (mil. units)	7.5	7.8	8.7	8.4	8.8	9.2	9.7
Raw Steel Products - (mil. tons)	20.0	16.8	14.5	18.4	23.6	25.3	27.3
Total Class I Rail Traffic (millions of tons)	327.5	300.0	290.6	294.8	310.3	321.2	331.3
Key Commodities							
Grain	30.0	30.0	29.2	32.6	26.7	30.7	31.2
Coal	138.4	125.4	121.0	115.7	120.9	121.6	128.9
Pulp & Paper	9.1	8.4	8.3	8.5	9.0	9.1	9.2
Chemicals	23.1	21.3	21.0	24.2	25.3	24.5	26.1
Motor Vehicles	4.9	3.9	3.6	4.4	5.3	4.4	5.5

Source: Data Resources, Inc., July 14, 1983

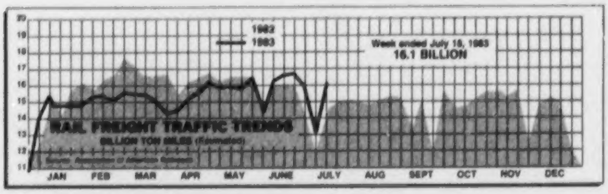
Revenue freight carloadings

Commodity	July 16 week	% change from 1982	July 9 week	% change from 1982	July 2 week	% change from 1982	June 25 week	% change from 1982	June 18 week	% change from 1982	June 11 week	% change from 1982
Grain	30,099	11.7	27,767	7.8	23,967	(12.8)	25,327	10.5	24,760	4.7	21,512	(11.1)
Other farm products	4,605	(0.3)	3,810	(0.6)	4,282	6.3	4,056	(7.4)	4,619	(0.4)	4,795	(1.2)
Metallic ores	21,074	55.4	19,291	70.3	21,821	60.4	22,291	58.4	21,587	42.6	21,822	44.7
Coal	93,019	(8.1)	61,607	(3.8)	79,183	(5.5)	104,928	(12.8)	104,755	(13.3)	104,072	(12.1)
Crushed stone, gravel & sand	11,353	11.9	8,890	8.3	10,742	13.9	11,158	13.7	11,741	14.7	11,527	11.5
Nonmetallic minerals	11,474	26.7	9,678	18.7	11,437	39.9	11,810	27.7	10,153	21.0	10,871	16.2
Grain mill products	11,237	(0.9)	9,601	3.5	11,152	(0.6)	11,441	2.2	11,114	0.1	11,877	6.0
Food & kindred products	11,157	(11.5)	9,129	(10.4)	11,227	(11.7)	10,953	(14.8)	10,835	(13.5)	10,955	(15.2)
Primary forest products	15,029	(3.0)	10,256	(7.4)	13,289	2.3	14,316	(3.4)	14,982	(4.7)	14,360	(10.1)
Lumber & wood products (except furniture)	7,032	20.6	4,931	21.3	8,072	28.6	7,783	15.2	7,580	14.2	7,824	16.2
Pulp, paper & allied products	14,233	(2.6)	11,789	(0.8)	15,305	(3.5)	15,630	(6.1)	15,388	(4.2)	14,819	(6.9)
Chemicals & allied products	21,137	9.2	17,551	4.7	23,065	12.2	21,565	2.2	22,554	8.5	22,374	3.7
Petroleum products	4,663	1.1	3,903	(4.5)	4,902	6.8	4,788	3.6	4,718	0.7	4,724	2.9
Stone, clay & glass products	11,576	13.7	9,505	13.6	10,542	7.5	10,639	4.3	10,890	7.5	11,227	6.6
Coke	5,766	30.5	5,024	19.9	5,683	27.9	5,415	37.5	5,380	27.1	5,426	19.5
Metals & products	7,785	1.7	5,975	(2.7)	8,541	(4.4)	7,957	(1.6)	8,348	(0.7)	7,965	(10.7)
Motor vehicles & equipment	14,493	4.2	11,579	5.0	18,038	14.4	18,241	3.3	18,575	6.2	19,103	10.4
Waste & scrap materials	8,055	11.8	5,786	6.0	7,925	14.3	8,221	7.6	8,360	6.6	8,411	(1.0)
Forwarder & shipper assn. traffic	7,597	(1.3)	6,479	(2.5)	8,687	(7.8)	8,279	(9.1)	8,410	(5.5)	8,140	(3.1)
All other carloads	48,439	17.3	40,301	18.0	53,298	18.1	51,823	16.1	51,678	16.0	48,662	13.8
LCL traffic	213	(82.3)	206	(76.4)	292	(79.4)	295	(81.7)	264	83.5	284	(81.2)
Total Cars Loaded	**360,036**	**5.0**	**283,058**	**6.6**	**351,450**	**5.7**	**376,916**	**1.4**	**376,691**	**0.8**	**370,750**	**(0.8)**

Estimated revenue ton-miles (billions)	**1983**	**1982**	**% change from 1982**
28 weeks	431.0	442.4	(2.6)

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
June 4	39,326	24.0	66,842	21.5
June 11	44,202	19.4	76,688	17.4
June 18	46,536	23.6	80,572	22.4
June 25	46,987	24.3	81,980	23.2
July 2	48,251	26.4	83,486	24.1
July 9	37,008	23.4	63,592	22.9
Cumulative total, 27 weeks	1,161,833	19.9	1,997,084	16.1



Watching Washington

Balancing public interest and private enterprise

The Amtrak that was created in 1971 and the Amtrak that exists today are two different companies. The obvious difference is that, broadly speaking, its trains have been transformed from abominable to admirable. There are other, equally significant changes, though, that have occurred in Amtrak's structure and goals. Some of these shifts pose a dilemma.

BILL FAHRENWALD

Amtrak inherited a fleet of equipment in terrible shape and overnight was expected to turn a faltering operation (20 years of deteriorating ridership) into a going concern. Almost in spite of itself, and its critics, Amtrak has succeeded. Not in turning a profit, of course, but in winning customer and political support.

The trains do run well, and they are managed by a sophisticated organization that was built from scratch. But they continue to lose money, and with the arrival of the Reagan Administration Amtrak came under renewed attack for its large federal subsidy.

Amtrak's response to that, in part, has been what it calls "revenue diversification." Under that banner, Amtrak has stepped into the world of private enterprise. It has competed for, and won, rail car assembly contracts for its Beech Grove, Ind., facility. When Amtrak became owner of the Northeast Corridor a wide array of real estate development opportunities opened up. A portion of the right of way has already been leased for a fiber optics communication system; now, Amtrak hopes that valuable building rights near and over some of its stations can be sold or leased.

No one, least of all Amtrak's managers, can forget that it is a publicly-funded enterprise. As such it has a responsibility to minimize its dependence on tax dollars—as Congress has instructed Amtrak to do many times.

But as a publicly-funded agency Amtrak also has a responsibility to act in the best interests of all the people. So when it starts to compete with one segment of the U.S. business community, there are bound to be cries of "foul." Since the first Amtrak train rolled, bus operators have complained that government-subsidized rail operations were unfair competition (never mind that the nation's highways are heavily subsidized with federal money).

Amtrak's recent expansion into areas beyond transportation, though, has prompted a closer look by some members of Congress. Specifically, Sen. James A. McClure (R-Idaho) asked the General Accounting Office (GAO) to audit Amtrak's revenue diversification program. McClure was particularly concerned about activities at Beech Grove which compete with Morrison-Knudsen's car repair operations.

Congressional sources now report that GAO has given Amtrak a generally clean bill of health.

A question remains which Congress might still have to settle. How actively should Amtrak compete in the private sector, particularly outside the provision of transportation?

A Senate bill, S.1117, would excuse Amtrak from certain provisions of the Freedom of Information Act. If passed, the legislation would allow Amtrak to withhold "trade secrets" and commercial or financial information. Designed now to protect Amtrak's fare model, the proposed limited FOIA exemption is less than Amtrak would have liked. Originally the railroad had requested broader relief which would have allowed it to keep competitive bidding for its contracts under wraps.

If Amtrak were a private but federally regulated company it would have a neutral regulatory agency to protect confidential data asked for by other companies. Without such a third party to intercede Amtrak has had to automatically grant FOIA requests for internal information.

The result of the proposed law, though, would be to set up Amtrak as sole judge about information that could be withheld.

That is how the private sector works all the time, of course. But it's not how publicly funded organizations work. Amtrak, a "quasi-governmental," subsidized corporation, must tread carefully while it discovers how to balance its public obligations with its private interests.

Amtrak's vital signs

Ridership*

	May '82	**May '83**	**% change**
Northeast Corridor	859,711	926,077	7.7
Short distance	377,627	413,056	9.4
Long distance	312,822	408,288	30.5
Special trains	9,897	15,362	55.2
System	**1,560,057**	**1,762,783**	**13.0**

On-time performance

Short distance**	74.7%	84.1%
Long distance	83.6%	80.0%
Special trains	21.7%	52.2%
System	**76.3%**	**83.2%**

*Increase in May 1983 ridership figures can be partially attributed, especially on long distance trains, to the fact that it was the last month of the spring "All Aboard America Fares."

**Includes Northeast Corridor

C8100-10

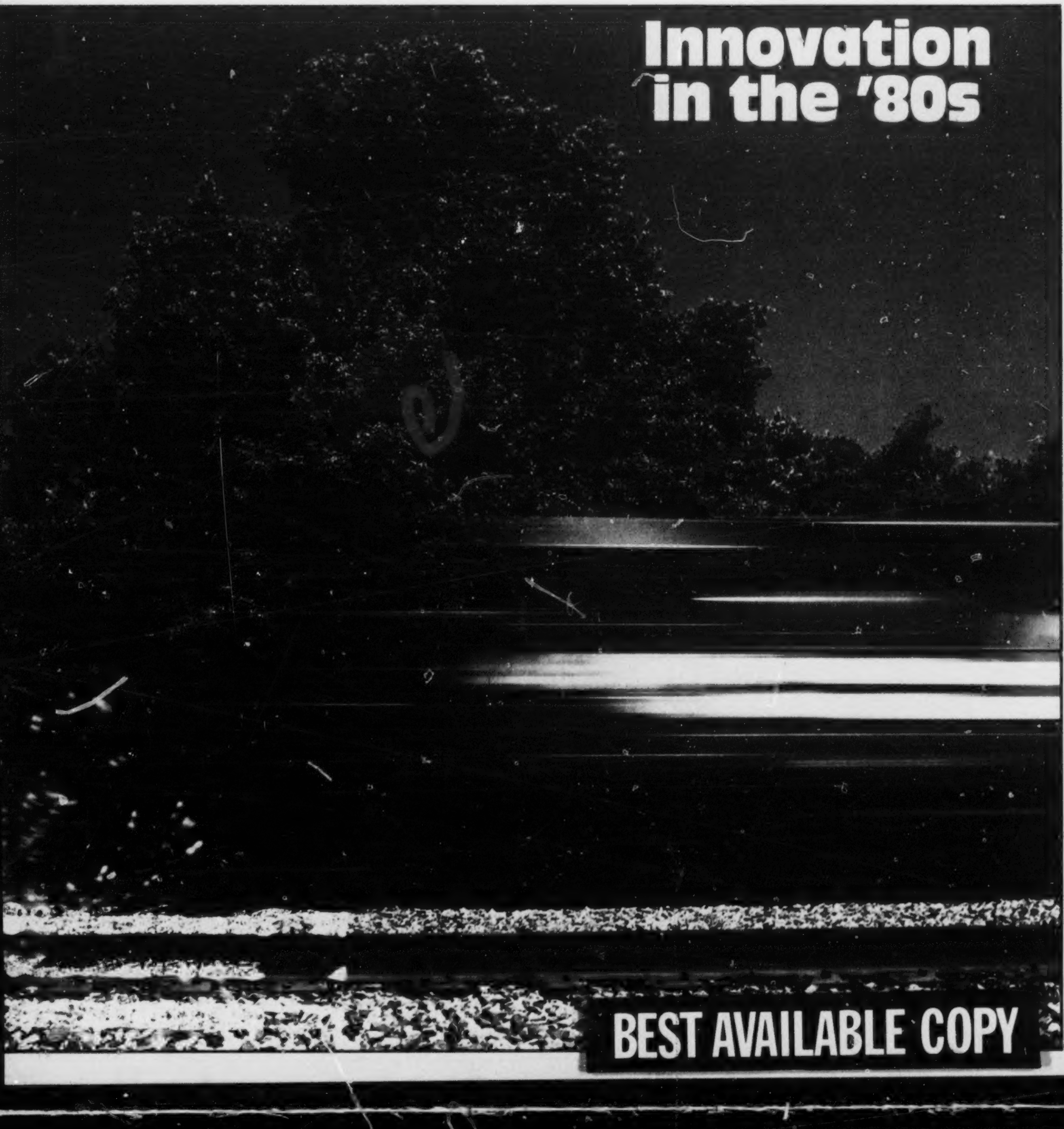
D&RGW digs out in record time

September 1983

RAILWAY AGE

...for the new age of railways

Out of recession into recovery



Innovation in the '80s

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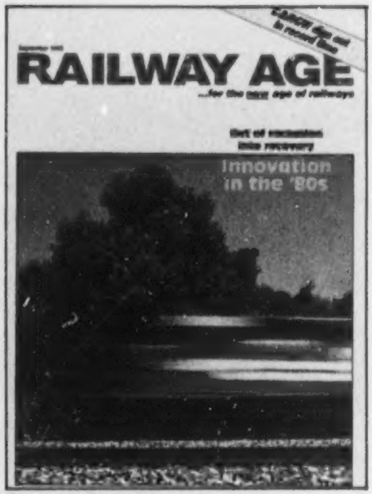
RAILWAY AGE

...for the new age of railways



Cover: Roy Blanchard photographed this Conrail fast freight near Harrisburg, Pa. Cover Story, *Page 46.*

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By completing in less than three months a tunneling job that normally would have taken nine, Morrison-Knudsen helped D&RGW get back in business.

46 Innovation in the '80s

In a time of unprecedented change, railroads and their suppliers face unprecedented challenges and opportunities. Here's how they are responding.

50 Tooling up for change

A new era of railroading demands new methods and new machines. In engineering and mechanical departments, the emphasis is on productivity.

55 Comeback for aluminum?

The good past performance of aluminum cars and the prospect of rate breaks are causing buyers to take a new look at the lighter-weight metal.

61 A swing to containers?

Not many railroads will move as fast as CP Rail to a complete switchover, but the wheel-less box is becoming increasingly attractive.

69 What the customer wants

Shippers have their own set of problems brought on by changing times; to solve them, they need flexible—and above all, reliable—service.

72 "No worry" car leasing

As it continues to refine the services it offers full-service lease customers, Union Tank Car is reexamining its relationships with railroads.

82 Metro-North modernizes

How much passenger comfort and convenience can $861 million buy? Within the next three years, the nation's second biggest commuter road will find out.

84 Product Showcase '83

Despite a depressed marketplace, suppliers continue to refine old product lines and introduce new ones. This is a sampling of recent offerings.

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Inside

Change—and the bottom line

LUTHER S. MILLER

Evidence of the extraordinary vitality of the post-Staggers railroads continues to accumulate. Especially impressive was that which came out of the computers of the Association of American Railroads late in August. What the printouts showed was that in this year's first six months, a time of profound distress for many industries, the railroads not only stayed in the black but did so by the comfortable margin of $428.2 million. That is not, perhaps, a dazzling return on a net investment of $35 billion. But any ROI at all these days is impressive, and this one especially, since it was achieved in the face of a 6.4% drop in traffic (from the already depressed levels of a year ago) and a $1.2 billion slump in operating revenues.

What happens next is, as twice-burned economists are warily saying, anybody's guess. Mary De Sapio, the distinguished rail analyst for Lehman Brothers Kuhn Loeb, is guessing that railroads could end up the year with earnings in the neighborhood of $1.5 billion; we have found no one willing to quarrel with that.

Railroads are traditionally among the last industries to feel the warmth of economic recovery, because recovery is led by the high-tech, low-traffic-producing businesses. But the signs are starting to look good. Traffic, though still down about 3% for the year as a whole, is now running ahead of 1982 levels. Conrail is recalling 800 workers to its locomotive shops at Altoona (when did you last hear news like *that?*). Even freight-car orders took a mild upward leap in July.

Looking down the road

If forecasting the immediate future is still something of a guessing contest, the long-range future of the railroads is brighter than it has been for 100 years. You have heard us say that before. Now you are hearing it everywhere—for example, on Wall Street where, as Mary De Sapio points out (p. 19), the railroads in the last year have outperformed both the Dow Jones Industrial Average and the Standard & Poor's 500 Index.

The reason for this surge of investor confidence is not the railroad industry's recent earnings performance alone; that is only a symptom. The reason is that the railroads are widely perceived to be going through a time of explosive and fundamental change—change that has come so swiftly that its implications are not fully understood even by many railroad managers.

In a series of stories in this issue, *Railway Age* pieces together the picture of what is happening—why it is happening—and what is likely to happen down the road. These stories of change begin on p. 46. They will not end, we hope, for many years to come.

Market Outlook

Equipment

Norfolk Southern: Will convert 500 surplus boxcars to piggyback flatcars capable of handling trailers up to 48 feet long. Following experimental conversions of one car each by Ortner Freight Car and Portec's Railcar Division, Norfolk Southern gave the go ahead for four cars per day to be converted at its Coster Car Shop in Knoxville.

Pittsburgh Railcar: Has been selected by United States Steel Corp. to provide preventive maintenance services and repairs for nearly 800 100-ton open top hoppers operating in Kentucky.

Sacramento Transit Development Agency: Will open bids Sept. 16 for the supply of 26 light rail vehicles. Qualified bidders are the Budd Co., Metro Canada, Siemens Duewag, and Kinki Sharyo.

Trailer Train: Ordered 100 intermodal platforms, 10 five-unit ARC-5 cars from Thrall Car and 10 five-unit Impack cars from Itel, to be built by FMC.

Facilities

Amtrak: Awarded a contract to Solari for 11 public-information display systems to be installed in Northeast Corridor stations.

Burlington Northern: Awarded an $18-million design/build contract to Sverdrup Corp. for ten major projects in an $80-million modernization program for BN's Galesburg, Ill., yard. BN's overall program involves construction of a new 46-track classification yard plus support facilities and a new intermodal hub center; Sverdrup's portion of the program involves the master plan, design and construction of operational facilities and structures other than trackage and electronic controls.

Conrail: Is spending $3.8 million to modernize and expand its intermodal terminal at East St. Louis, Ill. The project will increase annual trailer-handling capacity from 70,000 to 120,000.

CP Rail: Is building a $15-million car repair and diesel shop at Moose Jaw, Sask. The $4-million first phase, a light-repair shop, is to be completed this year. When the entire facility goes into operation in 1985, it will be capable of repairing up to 11,000 cars a year as well as maintaining 12 yard locomotives and performing light repairs to road locomotives.

Metropolitan Atlanta Rapid Transit Authority: Opened a new $2.5-million data center in Atlanta. The heart of the center is an IBM mainframe 4341.

New York MTA: Awarded a $20-million contract to Brown Boveri Electric, Inc., of Spring House, Pa., for electrical replacement and upgrading of 32 traction power stations along the Hudson and Harlem lines of the Metro North Commuter Railroad.

- MTA has selected Arthur D. Little, Inc., to perform a $900,000 study of the technical feasibility of installing automatic fare collection facilities on its subway and commuter lines, a long-term project estimated to cost $150 million.

Seaboard: Will build a $17.8-million TOFC/COFC terminal on a 220-acre site in Jacksonville, Fla.—one of five such facilities now in the planning or construction stages on the railroad with a total estimated investment of $70 million. Construction will begin this fall and is scheduled for completion by mid-1985.

- Seaboard has started construction, at Waycross, Ga., on a $13.5-million, 60,000-square-foot enginehouse facility that will be capable of maintaining and repairing 600 locomotives a month upon completion late in 1984.

Freight cars and locomotives

DELIVERED

	June		May	Six months	
	1983	1982	1983	1983	1982
Built new by carbuilders	338	1,244	376	2,104	10,584
Built new in RR shops	0	95	0	200	986
Built new—total	338	1,339	376	2,304	11,580
Rebuilt	0	142	0	0	790
TOTAL DELIVERED	**338**	**1,481**	**376**	**2,304**	**12,370**
Locomotives (new and rebuilt)	13	54	22	125	281

ORDERED

	June		May	Six months	
	1983	1982	1983	1983	1982
To be built new by carbuilders	150	586	797	2,566	4,665
To be built new in RR shops	0	0	0	3	0
To be built new—total	150	586	797	2,569	4,665
To be rebuilt	0	0	100	100	0
TOTAL ORDERED	**150**	**586**	**897**	**2,669**	**4,665**

ON ORDER AND UNDELIVERED

	July 1		June 1	Average Backlog	
	1983	1982	1983	1983	1982
To be built new by carbuilders	4,556	7,820	4,744	4,289	10,496
To be built new in RR shops	3	680	3	45	1,026
To be built new—total	4,559	8,500	4,747	4,334	11,522
To be rebuilt	100	110	100	33	453
TOTAL ON ORDER	**4,659**	**8,610**	**4,847**	**4,367**	**11,975**
Locomotives (new and rebuilt)	167	144	127	100	191

Source: AAR Transportation Division

Market Indicators

Market Performance: Railroads Versus Major Indices

"Our investment commitment toward the railroad industry continues on track. The dynamic market performance of railroad equities, as a group, has exceeded the Dow Jones Industrial Average and the Standard & Poor's 500 Index. Since August 1982, the Standard & Poor's Rail Index advanced 81%, from 62 to 112, and the total market value of publicly traded railroad equities increased $10.6 billion to $27.4 billion a 63% rise, by June 30, 1983. The accompanying table compares the market performance of the major averages with that of the railroad industry."

—Mary De Sapio, Lehman Brothers
Kuhn Loeb Research

				6/30/83 vs			
				12/31/82		8/2/82	
	8/2/82	12/31/82	6/30/83	Pts.	Pct.	Pts.	Pct.
Standard & Poor's Rail Average	62	86	112	26	29%	50	81%
Standard & Poor's 500 Index	109	140	168	31	28	59	54
Dow Jones Transportation Average	326	448	586	138	31	260	80
Dow Jones Industrial Average	822	1,046	1,221	175	17	399	48
Total Market Value of Rail Stock ($ Bil.)	$16.8	$21.3	$27.4	$6.1	29	$10.6	63

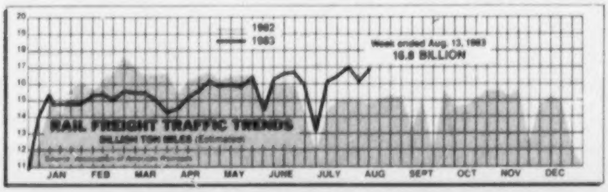
Revenue freight carloadings

Commodity	Aug. 13 week	% change from 1982	Aug. 6 week	% change from 1982	July 30 week	% change from 1982	July 23 week	% change from 1982
Grain	29,451	22.1	28,210	7.6	28,096	3.2	29,782	7.9
Other farm products	3,740	20.5	3,609	15.7	4,214	40.9	4,232	12.9
Metallic ores	18,342	26.7	15,654	7.2	20,311	60.4	20,893	56.7
Coal	111,731	(2.3)	103,139	(6.8)	107,633	(4.1)	98,289	(7.4)
Crushed stone, gravel and sand	11,387	14.8	11,370	18.3	11,270	20.0	11,424	16.7
Nonmetallic minerals	10,386	15.3	12,200	34.5	12,162	8.7	12,365	16.6
Grain mill products	11,395	(3.9)	11,427	(2.1)	11,315	(1.0)	11,331	0.9
Food and kindred products	11,441	(10.3)	11,453	(8.6)	11,630	(9.9)	11,101	(12.3)
Primary forest products	14,193	(6.1)	14,214	(7.0)	14,689	(5.0)	15,024	0.1
Lumber and wood products (except furniture)	6,889	15.0	7,103	23.9	8,084	21.9	7,129	17.1
Pulp, paper and allied products	14,728	(6.7)	15,119	(1.0)	15,265	(6.1)	14,825	(4.0)
Chemicals and allied products	22,607	7.9	22,653	11.2	22,752	11.1	20,328	3.1
Petroleum products	4,863	(2.1)	4,742	(6.0)	4,634	(3.1)	4,388	(6.6)
Stone, clay and glass products	11,390	13.4	10,910	4.8	11,498	13.3	11,231	10.9
Coke	5,091	18.5	5,195	21.6	5,213	12.6	5,523	31.4
Metals and products	8,161	14.7	6,974	(10.3)	8,337	0.3	7,811	(2.3)
Motor vehicles and equipment	13,492	10.6	14,027	22.9	14,955	7.2	14,756	4.1
Waste and scrap materials	7,917	5.4	7,611	10.4	7,995	13.9	8,282	17.0
Forwarder and shipper assn. traffic	7,950	(5.0)	7,643	(7.8)	8,132	(2.3)	7,728	(0.3)
All other carloads	51,042	20.4	50,674	18.9	52,696	18.9	51,463	19.7
LCL traffic	299	(75.8)	273	(74.7)	263	(79.5)	215	(85.3)
Total Cars Loaded	**376,495**	**5.7**	**364,200**	**3.5**	**381,144**	**5.4**	**368,120**	**4.6**

Estimated revenue ton-miles (billions)	**1983**	**1982**	**% change from 1982**
32 weeks	497.4	503.5	(1.2)

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
July 16	44,148	23.4	76,053	21.0
July 23	45,650	24.0	79.311	22.3
July 30	47,394	24.5	81,287	22.2
August 6	45,719	22.3	79,544	20.5
Cumulative total,				
31 weeks	1,344,641	20.3	2,313,770	16.9



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Watching Washington

The House giveth, the Senate taketh away

Congress has finally approved an FY 84 transportation budget. Spending by the Federal Railroad Administration will be close to levels for this fiscal year, but transit-related funding will be cut $125.5 million in FY 84 (which begins Oct. 1). Still, the Urban Mass Transportation Administration's budget is $477 million over Administration recommendations. The President was nevertheless expected to sign the transportation bill, which includes a total of $949 million for FRA and $4.243 billion for UMTA.

BILL FAHRENWALD

The Democrat-dominated House originally proposed higher transit funding levels, but backed down in compromise sessions with the Senate. House plans included allocation of $1.25 billion in gas tax revenues for transit, and higher levels than were finally adopted for interstate transfer grants, for the Washington Metro, and for transit formula grants, as well as for Amtrak. Overall UMTA funding was $185 million lower in the final bill than in the House-proposed bill.

Among the more contentious subjects was the mass transit appropriation. The House repeatedly voiced its strong displeasure with the Administration's attempt to renege on some commitments it made while pushing the Surface Transportation Act late last year. The House won an important victory in the appropriations bill by maintaining the level of transit operating assistance at $873 million. Also, the level for new rail starts remained very near the $400 million recommended by the House. But the division of that money was substantially altered, due in large part to the local setback of Houston's plans for a rail system. As a result, Houston's allotment was cut back from over $100 million to $5.5 million. Other cities wound up with the following amounts: Baltimore, $3.5 million; Miami, $35 million; Detroit, $45 million; Santa Clara, $40 million; Los Angeles, $117.2 million; Jacksonville, $15.5 million; Atlanta, $91.25 million; San Diego, $8.3 million; Portland, $44.25 million; St. Louis, $2.0 million; Buffalo, $2.0 million.

Among the particular items that got a hard look from Congress was the Los Angeles subway. It came under close scrutiny on the House floor, as some members questioned the need for the project. Rep. Bobbi Fiedler (R-Calif.) introduced an amendment that would have deleted all funds for Los Angeles. Fiedler aruged that the city's low population density and the subway's costly deep bore make the plan impractical. The amendment was soundly defeated, 280-139, but only after more than one hour of debate on the subject.

House attention was also focused on the proposed Philadelphia-Atlantic City rail corridor.

The bill had earmarked $30 million to rebuild trackage for 79-mph service from the city of brotherly love to the gaming capital of the East. Rep. Christopher H. Smith (R-N.J.) railed against what he termed the "Gambler's Express." Other opponents of the service argued that private financing should be used instead of federal money and that the introduction of fast, frequent trains would pose environmental and safety problems.

The opponents won a victory of sorts with a requirement for increased state funding of the service. Initially, at least, this provision appeared to pose a significant setback to the start of the new service.

Rail and transit-related federal appropriation—FY 84

($ in millions)

Federal Railroad Administration	
Office of Administrator	$11.68
Safety	28.90
Research and Development	16.23
Rail Service Assistance	24.24
Authority to borrow	0.85
Conrail Labor Protection	16.00
Rock Island Labor Protection	35.00
NECIP	100.00
Amtrak	716.40
Total FRA	$949.30
Urban Mass Transportation Administration	
Administrative Expense	$29.20
Reseach and Development	54.80
Formula Grants	2,388.59
Discretionary Grants	1,225.00
Interstate Transfer Grants	295.40
Washington Metro	250.00
Total UMTA	$4,242.59
National Transportation Safety Board	$20.86
Interstate Commerce Commission	$60.00

Lines on Labor

The "Retirement" system: Fixed—but for how long?

If you like serials, then you should be tuned in to the latest episode of the saving of the Railroad Retirement and Railroad Unemployment Insurance systems. This is a serial that turns up every few years, as management, labor, the Congress and the Administration try to figure out what to do about the latest crisis. Each time that crisis management takes place, there are assurances that "this fix" will really fix things. But it hasn't happened yet.

GUS WELTY

One problem, as with Social Security, is that people are simply living longer, and collecting retirement benefits over a longer period. But a specific problem with Railroad Retirement has been that a declining employment base has to support a growing retiree base. And the twain don't meet, mix or match.

In 1944, there were about 1.4 million people working for the railroads. In 1955, there were still more than a million. Today, there are fewer than 350,000, and there are no guarantees that total employment will rise all that much even as traffic increases.

So, it's no wonder that the Railroad Retirement and Railroad Unemployment Insurance programs (that last one funded 100% by employers) have been straining. It's no wonder, either, that with each "fix," the costs go higher—for working people and especially for the carriers since, unlike Social Security, Railroad Retirement is not a 50-50 split in tax contributions to the system. Under the arrangement that resulted from the most recent "fix," railroads have been paying about 17% of total payroll costs into the two programs. Under the new "fix," which was passed by both Houses of the Congress with almost no dissenting votes, railroads will be paying out about 21% of total payroll in taxes. That adds up to an increase of more than $500 million a year. It adds up to an increased cost per employee, based upon current employment levels, of more than $1,300 a year. And what this means, among other things, is that railroads will be facing much higher costs for retirement and unemployment-insurance benefits than unionized motor carriers are facing—without even considering the fact that many competing truckers today don't have unions.

On the surface, there's no way out of this trap, so long as railroads have their own separate retirement and unemployment systems of insurance. And it does no good to point fingers, at early-out retirement programs or at the percentage of railroad-paid unemployment insurance taxes that is paid to people striking against the tax-paying employer. Taken as a whole, these costs are not all that great; railroad "financing" of strikes, for instance, may be strange, but it's not all that costly.

What matters? Several things. First, there are people out there who are depending upon RR benefits. Second, there are people now working who are paying in, and they hope to get something back. Third, with employment possibly not going to rise very much and with more people heading into retirement, at some point some ultimate solution has to be reached.

It's still a serial—with the ending still in doubt

Ultimate solution. That's a nice phrase, but it's one that nobody has yet been able to translate into anything workable. There are inequities in the current system, while nobody can say for sure how much equity—by a couple of definitions—there will be in the future system. But what do you do? Cut benefits? Legislate some cutoff date for changing the tax and benefit structure? Make the system, in some way, voluntary? You make suggestions such as these, as various politicians have discovered, and you start a war.

And yet, back when the Social Security and Railroad Retirement systems were started, they weren't intended to be full "retirement" programs. They were intended to be a safety net, a supplement to what people were going to be able to do on their own. But somewhere between the 1930s and now, definitions got skewed and times changed and, to be honest about it, young people who have to pay into the system want something that says that they're going to get their money back.

They won't, many of them, not with today's tax rates, tax bases and actuarial tables. So, the latest "fix" is a "fix"—but the future is still a serial. A scary one.

Class 1 railroad employment

Employee Group	No. of employees, mid-month count July 1983	Percent of change July 1983 from July 1982	June 1983
Total—all employees	338,965	d 12.05	i .51
Executives, officials and staff assistants	14,654	d 12.92	d .36
Professional, clerical and general	70,598	d 11.85	d .19
Maintenance of way and structures	71,386	d 10.43	i 1.02
Maintenance of equipment and stores	60,444	d 17.91	d .75
Transportation (other than train, engine and yard)	16,164	d 12.14	i .[illegible]4
Transportation (yardmaster, switch-tenders, and hostlers)	6,175	d 11.79	i 1.3[illegible]
Transportation (train and engine service)	99,544	d 9.33	i 1.5[illegible]

Source: ICC

Coal pricing spurs reregulation drive

Congress is starting to waver under the weight of attacks on the Staggers Act. As a result, railroad industry officials are becoming edgy over the specter of some limited regulation late this year or, more likely, sometime next year.

Shipper interests, particularly coal shippers, have been objecting to some facets of deregulation since the Staggers Act was passed. But recent oversight hearings in the Senate and House revealed that opponents of deregulation are making progress with their objections.

In the House, a panel of five Congressmen delivered a fusillade of complaints about the effects of deregulation on coal shippers. Led by Rep. Nick J. Rahall, II (D-W.Va.), the members voiced more concern with the Interstate Commerce Commission's interpretation of the Staggers Act than with the act itself. One of the representatives seemed to sum up the attitude of his colleagues when he said: "The ICC has sanctioned railroad efforts to force coal shippers to pay an unfairly high portion of railroad fixed costs."

In testimony before the Senate, ICC Chairman Reese H. Taylor, Jr. reaffirmed that he strongly disagrees with some of the actions taken by his fellow Commissioners. He opposed two major deregulation moves recently taken by the ICC—the exemption from regulation of boxcar traffic and export coal.

Taylor has plenty of company in his dislike for the boxcar decision. He told the Senate panel that there have been 129 "irate responses" from members of the House, evenly split between Republicans and Democrats. Even more impressive was the fact that 66 (out of 100) Senators have complained about the decision. It is the exemption's potential effect on short lines that has created the biggest stir. Taylor wants to reopen the case.

Without further intervention, the decision would take effect in November. Commissioner Heather J. Gradison, who is a proponent of boxcar deregulation (and virtually any other kind of transportation deregulation), said she would be willing to postpone its effective date 60 days.

Coal continues to be the subject that is most likely to force a reopening of the Staggers Act. A Senate aide says Commerce Committee members would prefer to let the ICC take some "creative action" that would soften the effects of deregulation on shippers. But if the Commission does not act soon, the Committee may move to amend the Staggers Act.

According to AAR figures, railroad coal rates have not risen sharply since deregulation. In fact, "coal is holding down our profitability right now,"AAR President William H. Dempsey told the House panel. Since 1971, railroad coal rates, in constant dollars, have actually decreased slightly.

Further promise that rail rates will not shoot up was offered by CSX senior vice president—corporate services John W. Snow. He told the House members, "If the contracts we negotiate are typical of other railroads, coal rates will not go up as they have in the past. Typically, five to seven year contracts are now taking 50% of all our coal."

Yet the possibility of some degree of reregulation remains. The most serious threat is in the form of a bill introduced by Rep. Rahall. H.R.2584 would make some important changes in determining when the ICC could exercise jurisdiction over coal rates. Under current ICC interpretation of the law, competition for coal traffic can come not only from parallel transportation, but also from "geographic or product competition." In other words, coal transported from another region can be considered a competitive alternative as can oil and natural gas.

Those definitions are important because the ICC can enter a rate dispute only when there is a lack of competition. The broad definition of competition used by the ICC effectively eliminates it from a number of cases in which it might otherwise become involved. The Rahall bill would end the use of geographic and product competition in ICC rate cases. It would also weaken the provisions that block ICC intervention into rate cases involving railroads that do not earn adequate revenues.

The issue of coal rate regulation is also being tied to the coal slurry debate. Efforts to grant slurry pipelines the right of eminent domain were another subject giving railroads the jitters just before the summer recess. Both sides were claiming they had the votes to win, but the matter never came up for a floor test. It could very well pop up this fall, and its resolution could be linked to the argument that railroads are doing so well under deregulation that they no longer need protection from slurry pipelines.

Deregulation advocate and House Commerce Transportation subcommittee chairman James J. Florio (D-N.J.) attempted to satisfy some concerns through proposed legislation. H.R.3648, the Amtrak reauthorization for FY 84, also contains a provision to fund the Railroad Accounting Principles Board for $1 million per year during the next three years.

The Board was created in the Staggers Act, but no money was ever appropriated for its operation. The board's mission was to "establish...principles governing the determination of economically accurate railroad costs directly and indirectly associated with particular movements of goods."

Coal/rail share of destination value

Year	Mine price	Rail rate	Total	% of destination value Coal	Rail rate
1931	$ 1.54	$ 2.22	$ 3.76	41.0	59.0
1941	2.19	2.22	4.41	49.7	50.3
1951	4.92	3.16	8.06	60.9	39.1
1961	4.58	3.40	7.98	57.4	52.6
1971	7.07	3.70	10.77	65.6	34.4
1972	7.66	3.67	11.33	67.6	32.4
1973	8.53	3.78	12.31	69.3	30.7
1974	15.75	4.71	20.46	77.0	23.0
1975	19.23	5.25	24.48	78.6	21.4
1976	27.30	5.86	25.29	76.8	23.2
1977	19.43	6.48	26.30	75.4	24.6
1978	19.82	7.32	29.10	74.8	25.2
1979	21.78	8.15	31.65	74.2	25.8
1980	23.50	9.49	34.14	72.2	27.8
1981	24.65	11.33	37.62	69.9	30.1
1932	26.29	11.96	39.26	69.5	30.5

Source: AAR

M-K-T, KCS lead in rate of return

Seventeen Class I railroads, out of a total of 31 reporting to the Interstate Commerce Commission, earned a rate of return on net investment in the year ended Mar. 31. Leading the list were two southwestern roads, Missouri-Kansas-Texas (6.91%) and Kansas City Southern (6.06%). Both were down from the upper-9% ROIs they posted in the year-earlier period. In turnaround terms, Burlington Northern was the big winner: BN went from a 3.08% return to a 5.88% return.

This is how the 17 ROI roads ranked:

% rate of return on net investment

12 months ended Mar. 31

Railroad	1983	1982
Missouri-Kansas-Texas ..	6.91	9.70
Kansas City Southern	6.06	9.91
Burlington Northern	5.88	3.08
Southern	5.56	7.65
Chesapeake & Ohio	5.46	4.53
Norfolk & Western	5.44	10.76
Missouri Pacific	5.33	7.38
Western Maryland	4.36	6.29
Union Pacific	4.23	6.40
Rio Grande	3.64	8.09
Cotton Belt	3.38	3.91
Seaboard	3.38	3.92
Florida East Coast	3.11	3.04
Santa Fe	2.32	4.04
Soo Line	2.31	6.59
Elgin, Joliet & Eastern ...	1.49	3.69
Chicago & North Western	1.20	-0-

Profit prophets on tap at Evanston

The annual Railroad Profit Strategy program sponsored by the Transportation Center at Northwestern University at Evanston will be held Oct. 17-21—with a faculty that will include some of the top names in the railroad industry. On the list are Harry J. Bruce, senior vice president-marketing, ICG; Jack M. Cooper, vice president-management information services, Seaboard; Darius W. Gaskins, Jr., senior vice president-marketing and sales, BN; John S. Lanahan, senior vice president-commercial, Chessie; and Denman K. McNear, chairman and chief executive officer, SP; and L. Stanley Crane, chairman and chief executive officer, Conrail.

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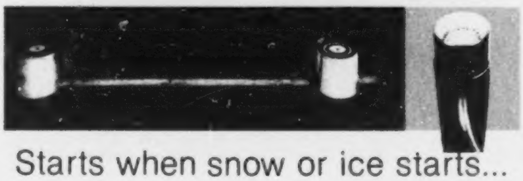

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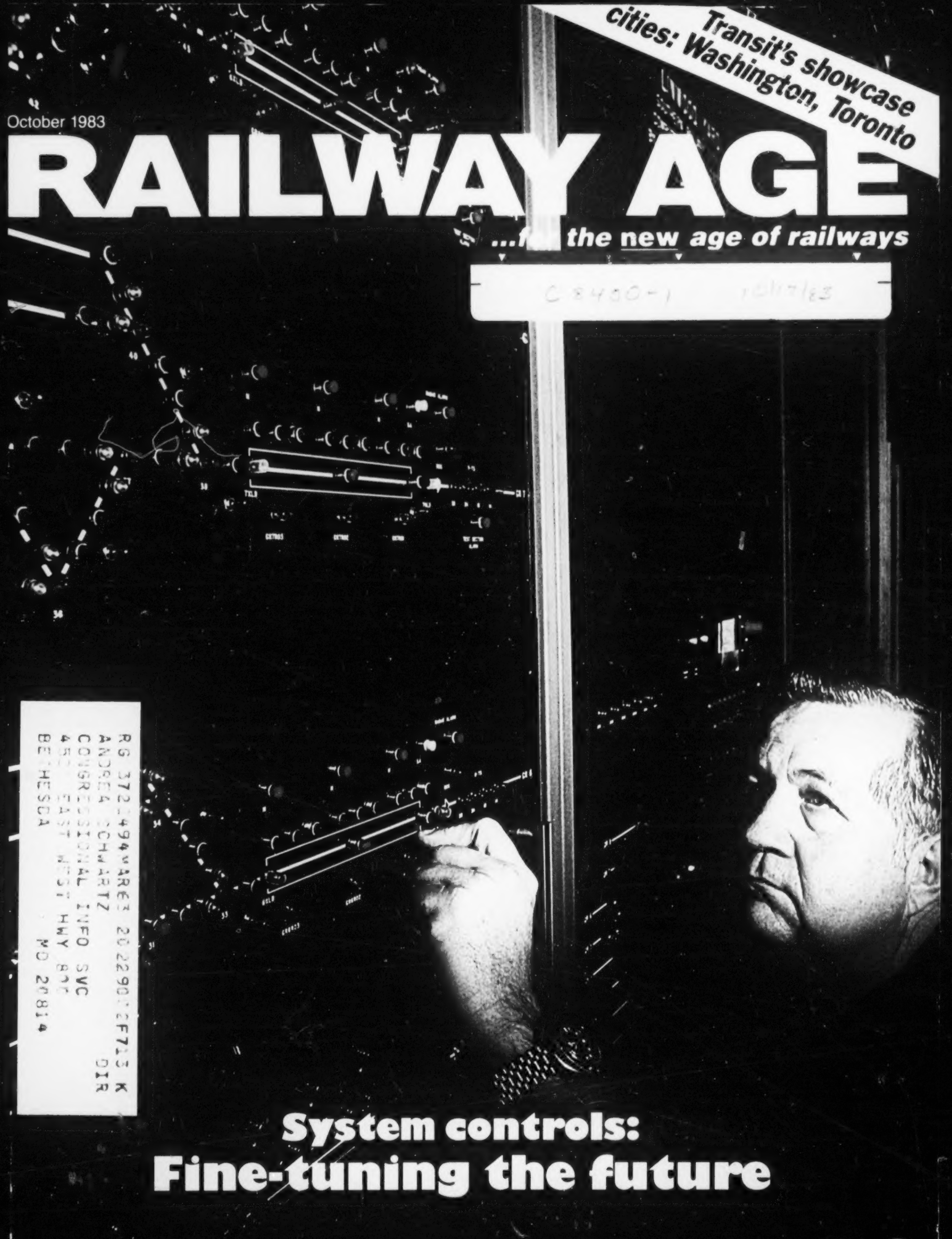

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System controls: Fine-tuning the future

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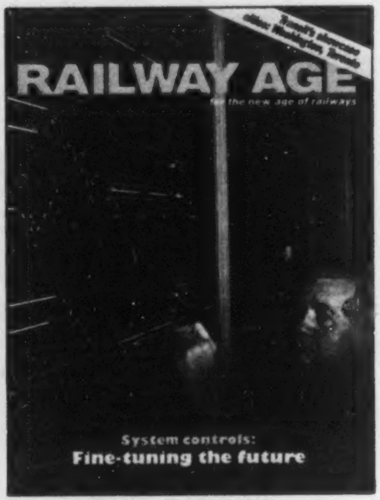

Cover: Senior Technician Ben Kidney checks retarder group control lights at Southern's Spencer Yard. Photo by Roy Blanchard. *Page 40.*

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Toronto, long considered a showcase transit city, will soon have even more to show: TTC's new intermediate-capacity line and GO Transit's planned ALRT.

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Inside

The C&S trail-blazers

LUTHER S. MILLER

Microprocessors. Fiber optics. Satellite communications.

You won't even find these terms in your desktop dictionary unless it is a very recent edition; yet, without them we could not have written this issue of *Railway Age.* That is how fast the railroad communications and signaling scene is changing.

Take the microprocessor (and if you do, you won't be the first). These remarkable chips are revolutionizing vital areas of railroading, as Senior Editor Gus Welty reports in our cover story (p. 40)—car classification, equipment identification, centralized traffic control, coded track circuitry, even locomotive problem-solving. And the list is lengthening.

Use of satellite communications by railroads may seem to be a little far out—but a man from NASA will be at this month's meeting of the AAR's C&S Division in Toronto to talk about it. Less far out is railroad use of fiber-optics communications. (Since we advised readers a few issues ago to "keep an eye on fiber optics," two railroads—CSX and M-K-T—have entered into fiber-optics joint ventures with telecommunications companies, and more such agreements are in the negotiating stage.)

Railroad C&S people, who were pioneers in the application of computers by major U.S. industries, are clearly still in a trailblazing mood.

At last, the ayes of Texas

When the International Union of Public Transport held its biennial meeting in Rio de Janeiro in June, the spirits of rail-transit attendees were considerably dampened by a piece of stunning news from Houston: Voters had rejected, by an overwhelming majority, a rapid transit system so far along in planning that the cars had already been ordered. "So much for rail transit in the Sun Belt," glumly observed one U.S. delegate. In other words, could Dallas (which was preparing for a vote on its own rail plan) escape Houston's doom?

But Texans are an unpredictable bunch; the stunning news that came out of Dallas a couple of months later was a solid vote in favor of a rail system, 160 miles price-tagged at more than $3 billion (p. 35). This happened despite efforts of the local press, among others, to point piously to the Houston vote as a lesson in sound fiscal policy. Said one Dallasite: "We're ornery folks who don't take orders from nobody—especially nobody in Houston."

Or perhaps they're just smart folks down in Dallas, who have observed what good rail transit has done for cities like Toronto (p. 63) and Washington (p. 69), and want a little of the same for their own home town.

Market Outlook

Equipment

Bay Area Rapid Transit: A contract has been awarded to Marathon Standby Batteries for pocket-plate nickel-cadmium batteries to supply emergency power in BART cars. Marathon Standby batteries feature double positive plate construction which is said to result in more efficient and longer cycling.

Massachusetts Bay Transportation Authority: Apparent low bidder for construction and spare parts of 45 new articulated "Type 7" streetcars for MBTA is C. Itoh & Co. of America/Kinki Sharyo of New York and Osaka. The company's bid of $46,843,805 includes the option of supplying up to 60 additional vehicles. The cars, designed by MBTA and Louis T. Klauder consulting engineers, would be engineered in Japan and assembled in the United States.

Sacramento Transit Development Agency: Ordered 26 light rail vehicles from Siemens-Allis Inc. at a base price per car of $829,119. The company's bid of $25,573,833.39 was 3% below STDA's engineer's estimate of $26.37 million. Other bidders included UTDC USA, $28,108,731; Kinki Sharyo, $32,249,695.66; and Budd, $36,875,760. The contract provides for the option to order additional units in one- to five-car increments. The cars will be air-conditioned, 750-volt versions of the basic U-2 design.

Trailer Train: Will acquire 200 intermodal platforms in five-platform-per-car configuration—100 platforms from Thrall Car and 100 from Itel Rail, the Itel cars to be built by FMC. The cars will be assigned, 50 platforms each, to Seaboard System, Conrail, Burlington Northern and Southern Pacific.

Transamerica Equipment Leasing Co.: Will acquire 1,290 intermodal and over-the-road trailers, valued at $6 million, under a lease arranged by PLM, Inc. through its subsidiary, PLM Transportation Equipment Corp. So far this year, PLM has arranged the leasing of more than $22 million of trailer equipment.

Facilities

Amtrak: Awarded a contract to Lone Star Industries of Greenwich, Conn., for 150,000 concrete crossties that will be installed between New York and Washington early in 1984. The contract includes options for an additional 350,000 ties over the next two years. Under an earlier contract, Lone Star supplied 1.1 million concrete ties to Amtrak.

CN Rail: Will purchase 140,000 tons of rail at an estimated cost of $85 million for its 1984 track program. Principal suppliers will be Sydney Steel Corp. of Sydney, N.S., and Algoma Steel Corp. of Ontario. Specialized rail for installation on curves will be purchased from Japan.

CP Rail: Will spend $5.75 million to expand the capacity of its Thunder Bay, Ont., bulk transfer facility. The project will include installation of more than a mile of new track, variable speed conveyor systems, and a multi-hopper unloading pit that will allow three covered hoppers to be unloaded simultaneously at a rate of 4,000 tons an hour with direct reloading into lake vessels.

Long Island: Awarded a $2.1-million contract to De Leuw, Cather for development of a conceptual design for improvements to the Jamaica Station complex in Queens.

Seaboard: Awarded a $9.5-million design/build contract to Sverdrup Corp. for a diesel locomotive repair facility at Rice Yard in Waycross, Ga. (*RA*, Sept., p. 17).

Freight cars and locomotives

DELIVERED

	July		June	Seven months	
	1983	1982	1983	1983	1982
Built new by carbuilders	260	1,369	338	2,364	11,981
Built new in RR shops	0	0	0	200	986
Built new—total	260	1,369	338	2,564	12,967
Rebuilt	29	12	0	29	802
TOTAL DELIVERED	**289**	**1,381**	**338**	**2,593**	**13,769**
Locomotives (new and rebuilt)	11	16	13	136	297

ORDERED

	July		June	Seven months	
	1983	1982	1983	1983	1982
To be built new by carbuilders	934	179	150	3,461	4,844
To be built new in RR shops	0	0	0	3	0
To be built new—total	934	179	150	3,464	4,844
To be rebuilt	0	0	0	100	0
TOTAL ORDERED	**934**	**179**	**150**	**3,564**	**4,844**

ON ORDER AND UNDELIVERED

	August 1*		July 1	Average Backlog	
	1983	1982	1983	1983	1982
To be built new by carbuilders	3,894	6,507	4,556	4,232	9,927
To be built new in RR shops	3	680	3	39	976
To be built new—total	3,897	7,187	4,559	4,271	10,903
To be rebuilt	71	98	100	39	402
TOTAL ON ORDER	**3,968**	**7,285**	**4,659**	**4,310**	**11,305**
Locomotives (new and rebuilt)	167	137	167	110	184

*Due to revisions and cancellations of some orders, the August 1, 1983 backlog has been reduced by 1,336 cars.

Source: AAR Transportation Division

Market Indicators

DRI Railroad Industry Monitor

Early fall is bringing good economic news. The recovery is moving at a sustainable pace, easing fears of a renewed bout with inflation, and sales of durable goods are increasing as confidence in the strength of the recovery grows.

The short term outlook for rail traffic is mixed. The recent Russian grain deal and repositioning of stocks resulting from the PIK program have boosted grain carloadings, but coal traffic will remain sluggish until at least the fourth quarter as utilities work to reduce inventories. Led by steady growth in TOFC/COFC, merchandise traffic is growing, but the current increase is just keeping pace with economic growth, and so far railroads have been unable to recapture traffic lost to trucks during the recession. 1984 is looming as a critical year for the railroad industry. In the coming months railroads must improve their ability to compete with trucks, or they face the prospect of continued losses in merchandise traffic.

	1983:1	1983:2	1983:3	1983:4	1984:1	1983:2	1984:3	1984:4
Ecomonic Indicators(Annualized rates)								
Real GNP (% change)	2.6	9.2	7.4	4.8	4.5	4.2	4.0	3.7
Industrial Production (1967 = 1.0)	1.38	1.44	1.49	1.52	1.55	1.56	1.59	1.61
Housing Starts (mil. units)	1.69	1.69	1.72	1.65	1.63	1.71	1.78	1.80
Retail Car Sales (mil. units)	8.4	9.2	9.4	10.0	10.2	10.4	10.5	10.7
Raw Steel Production (mil. tons)	18.4	33.2	31.6	33.0	34.0	35.1	33.1	34.5
Total Class I Rail Traffic (millions of tons)	295.4	312.8	305.1	316.7	303.3	335.8	341.7	345.7
Key Commodities								
Grain	32.0	26.7	30.7	32.2	33.7	32.9	29.4	31.7
Coal	114.6	118.0	111.2	122.7	117.3	129.6	134.9	142.3
Pulp & paper	9.4	9.4	9.1	9.2	9.5	9.6	9.3	9.2
Chemicals	24.5	24.0	23.8	24.3	26.1	25.5	24.4	24.7
Motor Vehicles	4.5	5.3	3.7	4.7	4.6	5.6	4.3	5.3

Source: Data Resources, Inc., Sept. 23, 1983

Revenue freight carloadings

Commodity	Sept. 17 week	% change from 1982	Sept. 10 week	% change from 1982	Sept. 3 week	% change from 1982	Aug. 27 week	% change from 1982	Aug. 20 week	% change from 1982
Grain	29,898	33.3	27,367	37.0	31,867	33.6	30,014	16.7	32,172	31.8
Other farm products	3,728	31.3	2,667	2.4	2,852	(4.8)	3,233	3.4	3,513	9.1
Metallic ores	16,247	34.2	13,365	15.1	14,524	5.7	18,883	32.6	16,413	16.4
Coal	116,799	3.5	99,554	(1.9)	109,668	(1.7)	108,080	(5.0)	110,192	(5.8)
Crushed stone, gravel and sand	11,051	7.0	9,351	(1.9)	10,768	3.0	10,950	1.7	10,607	(3.2)
Nonmetallic minerals	13,378	37.4	11,103	51.7	14,443	53.5	12,663	44.7	12,526	40.5
Grain mill products	12,968	6.1	10,637	2.4	11,993	1.5	12,024	3.1	12,166	(4.1)
Food and kindred products	12,640	(9.5)	10,470	(12.2)	12,222	(9.4)	11,849	(11.9)	11,735	(11.7)
Primary forest products	14,628	(1.8)	11,745	(5.9)	14,182	1.9	14,676	3.3	14,718	0.6
Lumber and wood products (except furniture)	7,199	17.5	5,550	18.8	7,525	21.4	7,482	16.7	7,149	15.4
Pulp, paper and allied products	15,205	(3.7)	13,664	(2.3)	15,748	0.5	14,850	(8.5)	15,213	(3.9)
Chemicals and allied products	24,277	11.1	21,005	9.0	25,189	13.3	23,737	15.2	23,357	10.3
Petroleum products	5,231	10.2	4,323	4.3	4,804	(3.6)	4,599	(9.1)	4,519	(12.5)
Stone, clay and glass products	11,799	6.4	10,134	5.3	11,674	6.9	11,465	6.4	11,105	5.4
Coke	5,563	31.1	5,537	36.4	5,666	29.5	5,759	38.5	5,711	40.1
Metals and products	8,255	10.6	6,846	10.0	9,005	11.7	9,000	22.8	7,986	3.3
Motor vehicles and equipment	18,167	22.9	14,018	18.8	17,427	24.5	15,051	13.7	14,222	15.1
Waste and scrap materials	9,049	16.6	6,719	8.1	8,248	10.0	8,050	7.0	8,095	8.8
Forwarder and shipper assn. traffic	9,974	20.9	8,351	23.1	10,127	11.1	8,406	(4.9)	7,962	(7.2)
All other carloads	54,398	20.1	44,741	21.2	54,569	17.2	53,782	19.9	52,482	19.7
LCL traffic	272	(76.4)	207	(76.5)	323	(76.8)	274	(78.8)	262	(78.2)
Total Cars Loaded	**400,726**	**11.3**	**337,354**	**8.2**	**392,824**	**8.5**	**384,827**	**6.3**	**382,105**	**5.2**

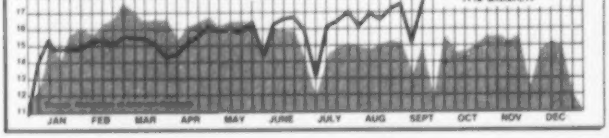
Estimated revenue ton-miles (billions)	**1983**	**1982**	**% change from 1982**
37 weeks	579.8	579.0	0.1

Piggyback loadings

Week ended	Cars loaded 1983	% increase from 1982	Trailers/ containers 1983	% increase from 1982
August 13	45,811	23.5	80,009	22.1
August 20	46,459	21.0	81,051	19.7
August 27	48,108	21.4	83,774	22.5
September 3	49,367	19.3	87,019	18.7
September 10	41,320	25.5	71,555	23.3
Cumulative total, 36 weeks	1,575,723	20.6	2,717,249	17.5

Rail freight traffic trends

Billion ton miles (Estimated)



Lines on Labor

Union elections: One big win, one close one—and an ouster

These have probably not been the worst of times to be president of a railroad union—but they certainly have not been the best of times either. Consider what happened at the recent conventions of the two biggest rail labor organizations, the United Transportation Union and the Brotherhood of Railway and Airline Clerks, and of the largest shopcraft union, the Brotherhood Railway Carmen.

GUS WELTY

UTU President Fred Hardin, first elected to the top job in 1979, got a challenge from a vice president but survived handily, 716 to 194. BRAC President Dick Kilroy, who was named by unanimous vote of the union's Executive Council in 1981 to succeed the late Fred Kroll, also got a challenge, and his victory was not so overwhelming. On a weighted-vote basis, he won by 652 to 543 over the head of the union's allied services division.

And Orville Jacobson, president of the Brotherhood Railway Carmen, was turned out of office in a three-way race, apparently because BRC delegates were in a get-tough mood and wanted somebody who was perceived as tougher, and so Ed Wheeler will be their new chief.

To those who watch rail union affairs from the outside, the Fred Hardin landslide came as no surprise. Hardin has done a good job for UTU. The closeness of the BRAC race did come as somewhat of a surprise. Dick Kilroy has done a good job for BRAC. And the ouster of Orville Jacobson by the Carmen came as a real surprise. Jake, too, appeared to have been doing a good job, in the face of several handicaps not of his making. It was not his fault, for instance, that the recession forced the closing of a number of railroad shops, that a number of carriers have decided to consolidate remaining shop facilities, that contract shops were springing up all across the land, or that the organizing of these shops proceeded slowly because BRC did not have a lot of money to spend on organizing. But Orville Jacobson went down, and Ed Wheeler will be the man to deal with.

What all of this means is hard to gauge, in the context of 1984 negotations. But it may be significant that the union leader with the easiest path to reelection was talking tough. Fred Hardin told the convention delegates, for example, that while inflation rose by 102% over the past 10 years, UTU members' wage and cost-of-living increases rose by 179%. Even though UTU agreed to a caboose-off procedure, Hardin told the electors that the union hasn't lost a caboose yet and will do everything it can to keep them.

Yes, indeed, the events of 1984 are hard to forecast. But at this point it would appear that whatever the railroads want, they had better be ready to hang in and fight for it, because rail labor is once again in a good time-frame for bargaining. Look at it this way. When the wage/benefit pattern was set for the current agreement, the recession had not yet hit. Railroads' fortunes were not looking bad, and the unions came out good. Now, or as of next Jan. 1, railroads will again be showing decent financial results.

Bargaining in '84: Nobody will have it all his own way

With it all, you keep reading about how the union is a dying institution—with declining membership, with organizing problems, with concessions (givebacks) being forced upon unions in many industries, including the trucking and airline industries in transportation. In the recent strike against AT&T, you kept reading about how Ma Bell would win because she was automated. Well, the telephone unions won much of what they wanted after only a short walkout. And the obituaries being written for the union movement are awfully premature.

However bargaining in the railroad industry may be structured next year, railroads—individually and/or collectively—had better be prepared, because the mood of the unions seems to again be one of "get," not of "give-to-get."

The only thing that might give rail labor pause is the certainty that as traffic bounces back, employment will bounce less high. Railroads have learned, again, how to do more with fewer people, not just through technology but through becoming smarter. And, as militant as they might want to be in 1984, that's a lesson that should not be lost on the people the organizations will have at the bargaining tables.

Class 1 railroad employment

Employee Group	No. of employees, mid-month count	Percent of change August 1983 from	
	August 1983	August 1982	July 1983
Total—all employees	335,281	d 11.18	d 1.09
Executives, officials and staff assistants	14,696	d 11.53	i .29
Professional, clerical and general	69,600	d 11.40	d 1.41
Maintenance of way and structures	71,122	d 9.56	d .37
Maintenance of equipment and stores	59,758	d 15.32	d 1.14
Transportation (other than train, engine and yard)	15,624	d 14.20	i 3.34
Transportation (yardmaster, switchtenders, and hostlers)	6,154	d 10.59	d .34
Transportation (train and engine service)	98,327	d 8.95	d 1.22

Source: ICC

REVENUES AND EXPENSES OF RAILWAYS

Second quarter figures of calendar year 1983

(Dollar figures are stated in thousands, i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Ways & structures			Equipment											
																		1983		
																Income after fixed charges		Net Ry. operating	Net income	
		Freight	Other	Total 1983	Total 1982	Total 1983	Total 1982	1983 Deprec.	Total 1983	Total 1982	1983 Deprec.	Total 1983	Total 1982	Operating ratio 1983	1982	1983	1982	income	1983	1982
Amtrak	3 mos.	—	168,952	168,952	137,338	37,462	27,936	4,024	88,058	77,907	20,018	337,000	298,838	199.46	217.59	(186,700)	(187,155)	(168,048)	(186,700)	(187,155)
	6 mos.	—	315,905	315,905	247,820	76,149	57,253	7,950	178,262	152,844	40,865	678,383	603,908	214.74	243.68	(398,743)	(398,798)	(362,478)	(398,743)	(398,798)
Atchison, Topeka & Santa Fe	3 mos.	497,192	9,418	506,610	529,681	77,663	70,849	3,943	120,517	121,899	23,655	470,277	485,458	92.82	91.65	29,980	35,891	30,950	24,369	25,174
	6 mos.	973,618	18,912	992,530	1,065,083	154,944	147,381	7,614	244,227	250,646	47,247	954,094	1,007,215	96.12	94.56	26,487	38,988	33,561	21,142	27,055
Baltimore & Ohio	3 mos.	222,435	8,208	230,643	253,112	65,907	70,729	2,305	52,365	54,056	7,180	246,141	248,116	106.71	98.02	31,276	7,360	(18,411)	24,915	3,692
	6 mos.	410,891	15,821	426,712	492,778	97,932	115,508	4,610	103,565	114,648	14,274	447,953	496,689	104.97	100.79	21,252	(3,179)	(21,760)	16,601	(2,344)
Bessemer & Lake Erie	3 mos.	15,646	4,262	19,908	25,142	2,840	3,533	989	1,946	4,219	1,157	13,767	22,464	69.15	89.34	6,218	3,886	3,130	3,207	2,403
	6 mos.	25,220	4,990	30,210	41,743	5,644	6,659	1,977	3,922	7,746	2,313	29,446	42,385	97.47	101.53	1,062	1,486	412	710	1,565
Boston & Maine	3 mos.	28,896	1,261	30,157	31,504	5,207	5,980	361	8,669	8,943	361	30,574	31,434	101.38	99.77	(9)	1,379	(343)	(156)	1,186
	6 mos.	55,195	2,457	57,652	61,525	10,417	11,639	727	17,107	17,045	724	60,456	62,162	104.86	101.03	(1,824)	1,983	(2,655)	(2,201)	1,597
Burlington Northern	3 mos.	922,463	20,929	943,392	938,719	221,888	225,018	4,599	174,748	201,197	17,591	865,873	913,025	91.78	97.26	65,927	22,937	52,646	41,044	21,631
	6 mos.	1,894,119	42,589	1,936,708	1,857,526	375,919	371,534	11,227	353,733	401,265	35,350	1,706,713	1,776,820	88.22	95.65	199,251	78,995	147,267	118,503	54,402
Chesapeake & Ohio	3 mos	238,007	9,925	247,932	300,310	61,580	65,707	1,961	51,771	59,562	3,586	225,369	260,766	90.89	86.83	16,316	68,177	16,408	10,131	48,500
	6 mos.	442,029	16,838	458,867	556,470	89,402	106,057	3,939	101,328	119,404	7,034	420,755	491,329	91.69	88.29	25,688	99,491	27,704	15,265	63,094
Chicago & North Western	3 mos.	183,812	25,113	208,925	202,785	38,879	38,111	1,591	47,504	49,826	4,515	196,651	199,997	94.12	98.62	7,591	(3,009)	13,262	7,591	(3,015)
	6 mos.	357,551	48,305	405,856	402,386	71,442	78,246	3,180	96,630	105,120	9,034	389,408	418,594	95.94	104.02	7,536	(10,025)	18,762	7,536	(10,037)
Chicago & Milwaukee, St. Paul & Pac.	3 mos.	85,404	4,203	89,607	96,865	21,566	22,876	617	24,953	27,194	3,365	94,972	103,668	105.98	104.85	(21,759)	3,114	(5,430)	439	(1,954)
	6 mos	167,593	8,991	176,584	196,416	34,872	41,195	1,402	48,941	56,615	6,742	178,392	210,371	101.02	107.10	(20,343)	1,259	(1,875)	3,664	(13,250)
Conrail	3 mos.	736,940	29,276	766,216	914,828	168,830	208,289	7,120	178,314	230,645	36,166	730,969	923,070	95.39	100.90	32,652	(8,062)	35,402	36,124	19,621
	6 mos.	1,433,662	50,568	1,484,230	1,809,125	288,889	356,502	14,463	367,860	471,641	72,618	1,432,265	1,835,164	96.49	101.43	42,904	(30,685)	52,253	54,692	4,567
Delaware & Hudson	3 mos.	27,094	937	28,031	29,227	4,998	6,646	157	8,004	7,700	882	28,263	31,604	100.82	108.13	(2,905)	(4,502)	(200)	(2,905)	(4,502)
	6 mos.	50,074	1,940	52,014	57,661	9,500	12,985	314	15,817	15,221	1,765	55,684	61,844	107.05	107.25	(8,939)	(8,456)	(3,605)	(8,939)	(8,456)
Denver & Rio Grande Western	3 mos.	75,051	1,213	76,264	77,763	13,663	13,198	697	16,688	13,882	3,141	74,679	69,273	97.92	89.08	1,152	7,908	2,252	9,210	5,900
	6 mos.	142,964	2,984	145,948	156,656	22,982	23,774	1,383	30,869	28,773	6,221	138,349	138,080	94.79	88.14	7,208	17,546	6,994	14,023	13,169
Detroit, Toledo & Ironton	3 mos.	16,023	593	16,616	19,467	2,231	5,024	117	4,566	6,406	803	17,641	22,380	106.20	114.80	(2,049)	(3,160)	(2,556)	(2,049)	(3,160)
	6 mos.	31,648	1,271	32,919	36,349	4,295	8,384	247	10,223	12,869	1,834	35,482	43,394	107.80	119.40	(4,665)	(7,771)	(4,090)	(4,665)	(7,771)
Duluth, Missabe & Iron Range	3 mos.	22,769	657	23,446	21,741	5,909	4,216	923	2,072	2,563	717	16,375	16,479	69.84	75.79	7,755	6,060	3,112	4,363	3,385
	6 mos.	31,905	951	32,856	34,057	10,689	10,812	1,845	4,313	5,352	1,434	30,477	35,788	92.75	105.08	3,267	231	144	2,149	358
Elgin, Joliet & Eastern	3 mos.	15,094	8,557	23,651	22,267	3,638	4,388	197	2,931	2,594	1,874	21,715	20,949	91.81	94.08	2,570	2,465	1,582	1,425	1,334
	6 mos.	29,230	16,190	45,420	50,367	6,108	7,952	394	5,865	4,076	3,730	41,004	42,640	90.27	84.66	5,892	10,331	2,528	3,213	5,529
Florida East Coast	3 mos.	24,973	285	25,258	21,772	5,782	4,582	326	3,727	3,535	1,170	20,428	19,156	80.87	87.98	37,283	5,334	(8,357)	24,096	3,447
	6 mos.	50,278	599	50,877	44,960	10,788	10,706	652	7,599	6,719	2,190	40,119	39,185	78.85	87.15	44,933	9,355	(5,623)	28,552	6,398
Grand Trunk Western	3 mos.	56,605	3,331	59,936	67,503	8,326	10,123	801	11,974	14,365	1,219	56,522	64,010	94.30	94.82	2,175	3,736	3,545	2,303	3,945
	6 mos.	105,500	6,538	112,038	126,613	14,748	17,776	983	24,190	27,923	2,443	113,413	125,766	101.22	97.70	(3,429)	2,016	86	(1,973)	3,176
Illinois Central Gulf	3 mos.	197,129	18,682	215,811	229,795	33,006	61,723	1,967	65,271	65,168	5,213	216,682	259,415	100.40	112.88	(5,752)	(20,214)	(760)	(6,122)	(19,608)
	6 mos.	401,868	37,646	439,514	477,520	56,707	102,958	3,951	136,220	144,365	11,319	433,455	525,590	98.62	110.06	(5,529)	(37,392)	6,317	(6,229)	(36,353)

Kansas City Southern	3 mos.	73,598	3,095	76,693	80,128	14,686	16,596	781	17,847	16,751	5,012	67,861	70,313	88.48	87.75	6,889	6,881	6,695	4,725	5,090
	6 mos.	145,351	6,275	151,626	164,496	27,895	32,266	1,565	36,153	34,195	10,295	135,760	141,558	89.53	86.05	12,834	17,408	12,276	9,192	12,659
Long Island	3 mos.	2,187	108,776	110,963	102,581	25,472	22,042	839	27,368	25,061	2,417	124,233	108,406	111.95	105.67	(13,362)	(6,061)	(13,154)	(13,362)	(6,061)
	6 mos.	4,655	217,981	222,636	201,943	50,560	47,253	1,677	54,968	51,473	4,819	244,366	223,025	109.76	110.43	(21,883)	(21,390)	(21,492)	(21,883)	(21,390)
Missouri-Kansas-Texas	3 mos.	55,476	2,879	58,355	60,708	9,020	9,246	411	14,585	17,231	1,841	52,387	56,143	89.77	92.48	3,753	2,402	5,710	3,753	2,402
	6 mos.	108,896	4,788	113,684	121,127	17,188	18,196	822	27,370	33,137	3,759	102,945	112,251	90.55	92.67	6,143	3,439	10,438	6,343	3,439
Missouri Pacific	3 mos.	399,195	9,301	408,496	446,687	80,987	70,861	2,746	85,410	102,470	17,938	377,062	387,770	92.30	86.81	16,453	53,138	28,863	11,377	38,491
	6 mos.	802,925	19,576	822,501	891,150	142,307	126,078	5,483	186,402	210,262	35,868	751,034	775,008	91.31	86.96	43,730	103,222	60,901	28,189	72,279
Norfolk & Western	3 mos.	372,519	13,867	386,386	490,559	91,351	89,064	3,934	69,442	79,678	14,244	337,483	363,758	87.34	74.15	71,262	151,953	28,602	43,058	93,946
	6 mos.	706,291	27,513	733,804	974,633	165,843	151,428	7,733	140,911	163,731	28,551	668,351	721,468	91.08	74.02	106,958	299,028	39,993	65,721	182,951
Pittsburgh & Lake Erie	3 mos.	10,066	379	10,445	12,094	1,608	2,571	49	4,441	2,415	329	14,139	14,922	135.36	123.38	(6,642)	(4,957)	(3,686)	(6,642)	(4,678)
	6 mos.	19,204	723	19,927	27,744	3,469	5,884	93	9,468	5,744	652	29,682	32,417	148.95	116.84	(15,044)	(8,256)	(9,744)	(15,044)	(7,984)
St. Louis Southwestern	3 mos.	89,189	1,368	90,557	88,556	12,524	13,451	677	22,632	20,254	5,752	81,803	78,333	91.33	88.45	11,277	13,054	2,144	4,667	11,636
	6 mos.	171,890	2,779	174,669	188,636	23,340	27,432	1,356	43,234	41,488	11,561	159,740	162,418	91.45	86.10	16,797	29,496	6,845	8,513	21,499
Seaboard System	3 mos.	590,753	12,470	603,223	608,035	118,728	128,245	5,059	160,415	148,956	19,489	588,000	597,399	97.47	98.25	12,174	15,194	17,909	12,204	28,345
	6 mos.	1,183,331	26,466	1,209,797	1,259,728	205,564	226,677	10,232	314,737	314,059	39,125	1,145,013	1,208,310	94.64	95.91	51,924	51,555	65,984	47,794	55,507
Soo Line	3 mos.	64,965	1,515	66,480	71,459	14,923	16,189	432	16,108	15,266	2,027	66,909	66,265	100.64	92.73	(150)	6,665	(30)	38	4,057
	6 mos.	130,199	2,966	133,165	147,210	25,968	28,126	959	32,042	32,166	4,048	129,847	133,404	97.50	90.62	3,643	16,352	2,468	2,378	10,074
Southern	3 mos.	401,060	7,850	408,910	421,236	71,770	71,969	5,280	83,375	82,231	19,838	347,654	355,410	85.01	84.37	58,415	68,072	44,382	40,225	43,944
	6 mos.	775,304	16,811	792,115	832,528	120,805	124,840	10,551	162,778	164,587	39,677	670,997	700,562	84.70	84.14	111,258	135,643	43,117	70,340	86,730
Southern Pacific	3 mos.	484,330	12,738	497,068	530,917	84,412	82,894	4,818	138,146	149,075	21,342	510,316	542,577	102.66	102.19	(5,488)	11,370	(16,973)	(9,213)	10,991
	6 mos.	932,997	26,569	959,566	1,078,115	168,473	177,839	9,729	268,149	317,390	42,762	1,010,497	1,119,099	105.30	103.80	(43,551)	(6,357)	(50,932)	(43,552)	(6,357)
Union Pacific	3 mos.	415,780	6,424	422,204	459,970	79,995	79,537	3,480	87,604	101,069	24,025	400,563	426,542	94.87	92.73	28,043	31,311	12,065	18,406	20,456
	6 mos.	854,725	12,569	867,294	930,629	139,546	139,671	6,934	181,464	194,074	47,903	799,786	840,771	92.21	90.34	66,327	80,671	43,269	41,998	50,898
Western Maryland	3 mos.	5,630	221	5,851	23,754	1,807	5,662	218	2,067	3,511	1,356	7,339	20,205	125.43	85.05	1,053	4,450	(1,693)	837	2,560
	6 mos.	22,048	788	22,836	44,128	5,812	8,529	437	5,636	6,484	2,754	24,088	35,642	105.48	80.76	1,616	9,855	(1,573)	1,275	5,514
Western Pacific	3 mos.	36,688	311	36,999	44,775	6,492	7,936	148	9,750	10,312	1,767	42,939	46,809	116.05	104.54	(3,470)	(1,460)	(4,329)	(1,889)	(705)
	6 mos.	76,944	866	77,810	90,899	13,156	14,790	294	20,518	20,961	3,535	89,852	94,748	115.47	104.23	(7,219)	(317)	(8,694)	(3,931)	293

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